

EFFECTS OF WATER FLOWS ON APALACHICOLA BAY: SHORT AND LONG TERM PERSPECTIVES

FIELD HEARING

BEFORE THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

AUGUST 13, 2013

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

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EFFECTS OF WATER FLOWS ON APALACHICOLA BAY: SHORT AND LONG TERM PERSPECTIVES

TUESDAY, AUGUST 13, 2013

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Apalachicola, FL.

The Committee met, pursuant to notice, at 11:06 a.m., in the Franklin County Courthouse Annex Building, 34 Forbes Street, Apalachicola, Florida, Hon. Bill Nelson, presiding.

OPENING STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM FLORIDA

Senator NELSON. This hearing of the Senate Commerce Committee will come to order.

We want to thank everybody for being here. And we have a number of elected officials here. We want to thank you for your presence. We want to thank Apalachicola and Franklin County for your hospitality.

And we have been looking forward to this. Senator Rubio and I collaborate almost every day that we are in session in Washington. And one of the topics, of course, that we have frequently talked about is the plight of the folks here in the Apalachicola Bay area and the desperate need for that water to flow south on the Chattahoochee and the Flint Rivers that then comes into the Apalachicola.

I want to thank Senator Rubio for first requesting this hearing today. The two of us have a very good personal and professional relationship, and it is an example of how bipartisanship ought to work between two Senators from one state. Sometimes you would be surprised at some of the Senators from the same state that don't necessarily get along. And, fortunately, in the case of Florida, it is a very good working relationship.

And we are here today to get the ideas of three panels on what is the problem with Apalachicola Bay, the technical reasons, the technical fixes, and all of the economic issues and the personal issues that are surrounding this problem.

Our oystermen, their families, all those who depend on a healthy bay are now depending on us. And for over two decades, we have fought our neighbors to the north over the freshwater that flows south from the Chattahoochee into Apalachicola River and into this bay. And court decisions, some have gone our way, others have not. And now we have NOAA that is lending a hand.

And, as you know, just yesterday, the Secretary of Commerce—and I just got off the phone with her a few minutes ago—she determined that a fishery resource disaster occurred for the oyster stocks along the west coast of Florida, primarily in the Apalachicola Bay area.

And she declared that—this is Secretary Pritzker—because of three factors: number one, a drought throughout the southeastern U.S. that has led to below-average river flows; number two, reduced downstream river flow from man-made dams along the rivers; and, number three, increased salinity in the bay that not only stresses the oyster populations but allows the persistent occurrence of oyster predators, such as stone crab and oyster drills.

And this collapse has had a tremendous impact on folks living here. Over 2,000 jobs are related to harvesting or the processing of oysters on Florida's Gulf Coast. And while Federal and state agencies are working together to help those fishermen that have been affected, the primary cause of the disaster, a lack of freshwater, still remains.

The river and the bay here in Apalachicola are the true economic engines of this region. And without more freshwater, this region's economy could find itself in jeopardy, to the tune of hundreds of millions of dollars.

Think of all the commercial fishing in the Gulf. Many of those fish spawn and grow right here in the bay. In good years, roughly 90 percent of the oysters harvested in Florida and nearly 10 percent of all oysters produced in this country came from right here in this bay.

And despite the state Fish and Wildlife Conservation Commission, which said it expects the decline in revenue and pounds of oysters to continue, Senator Rubio and I are here because we think the bay can recover. It has done so in the past; there is no reason that it can't do it in the future.

And so now that the Federal fishery disaster has been declared, Congress needs to get it funded as soon as possible. And this will help us bring some much-needed funds to the area and help support a long-term recovery effort here.

But we still need to find a way to get more freshwater down to the bay. One opinion is an administrative approach that could be implemented by the Army Corps of Engineers, and we are going to hear from them today. In essence, the Corps would simply update its master operating document known as the Water Control Manual, and they would update it for a series of five locks and dams along the ACF system.

Another option would be for Congress to pass legislation that would require the Army Corps to manage the ACF, Apalachicola-Chattahoochee-Flint, system in a way that guarantees sufficient freshwater flows into the bay. Well, we tried to do this. Senator Rubio and I tried to do this by amending the Water Resources Development Act when it was being considered in the Senate, but the Senators from Georgia initiated their prerogative and they threatened to filibuster the entire bill over that provision.

And the third option would require the Governors of all three states—Georgia, Alabama, and Florida—to come together and agree on how much water each state would get. This discussion has

been going on for years, ever since Bob Graham was Governor. And the three Governors get together, and the Alabama and the Florida Governors agree, but the Georgia Governor won't agree because of all the water that they are holding back up there in the dammed part of the Chattahoochee River known as Lake Lanier.

Such an agreement between the three Governors would be made in the form of an interstate water compact, which Congress would then ratify.

So, regardless of how we do it—and, at this point, before hearing the testimony, I can tell you that it looks like the administrative route, with the Corps doing that updated water plan, that looks like the most viable to me at this point. But I want to hear what the witnesses will share.

But regardless of how we do it, when it comes to the management of the ACF system, Florida obviously has got to be treated fairly. And just because we are geographically located at the bottom of the river doesn't mean our interests belong at the bottom of anyone's list.

The current water policies are not working, and especially they are not working for Florida. And it is time we quit playing this state politics and the Atlanta-area politics, and we have to start finding some solutions. And so Senator Rubio and I are going to hear all the facts and the evidence that led to the disaster and what is being done to solve it.

And now I want to turn, for his opening statement, to my colleague and my friend, Senator Rubio.

**STATEMENT OF HON. MARCO RUBIO,
U.S. SENATOR FROM FLORIDA**

Senator RUBIO. Thank you, Senator Nelson. And thank you, as well, for working in such a cooperative way.

I want to thank all of you for being a part of this here today.

I want you to know these hearings matter, because they allow us to create the congressional record that justifies the actions we want to take. But the other reason why it matters is because sometimes we talk about these issues and we lose the human side of it, the real people who are being impacted by it, the families who are not just losing a family tradition, they are losing their family livelihood, what they have done for generations.

And so when we talk about these issues sometimes in terms of science or in terms of numbers or even in terms of dollars, we forget the human lives and the people that are being impacted by it and the communities that depend on it. And so that is why we are so glad to be here today, I wish under better circumstances, because it allows us to put the real face of real people on this problem and go back to our colleagues and make an even more passionate argument on behalf of why action is necessary.

I want to thank you, Senator Nelson, for not just being a great partner in this endeavor and others but for being here today and for hosting this with me.

And I want to thank, as I said, everyone who has attended here today. And I really want to thank particularly the Board of County Commissioners and their staff, as well as the clerk, Marcia John-

son, and her staff, for their assistance in securing this location and helping us in advance to put together today's hearing.

I especially want to thank all the witnesses that are here with us today, and in particular Congressman Southerland, who we will hear from in a moment. There is no more passionate advocate on behalf of each of you than him, and he has done a phenomenal job to be a voice. And we are going to hear from him in a moment.

So thank you for your time being here with us today and your participation and your partnership in this, as well.

The water wars between our states, between Alabama and Georgia, have been decades in the making. By the way, I think the ultimate revenge is just to beat them in Jacksonville at the game in November, but—

[Laughter.]

Senator RUBIO. We need to do that every year, I guess.

But with many years of litigation, one failed tri-state compact, and continuing opposition from any congressional or state fix by the Georgia delegation, the frustration felt by this community, by myself, by Senator Nelson, by Congressman Southerland, by Governor Scott, and the entire Florida community is barely measured by the number of folks attending here today.

I would just say that, as a community whose way of life and livelihood is directly and negatively affected by policy decisions made seemingly beyond your control, your resilience and your dedication to finding a solution is inspirational and admirable. I appreciate your assistance, I appreciate you attending this hearing so that we can continue to highlight and to stress to our colleagues the importance of this issue.

So here is the goal of today's hearing. We have two primary goals. The first is we want to continue to build the Congressional Record that we will be able to go back and use to justify our continued efforts to congressionally direct the Army Corps of Engineers to prioritize the freshwater flows into the Apalachicola Bay. This is particularly important now in the context of trying to secure funding after the Secretary of Commerce's declaration yesterday.

As you may know, this summer, during the—Senator Nelson alluded to this—during the Senate debate on the Water Resources Development Act, several amendments were offered to help address this water-flow issue. In fact, the legislation passed by the Committee, the Environment and Public Works Committee, included a provision that was supported by myself, Senator Nelson, and the Senators from Alabama, Senator Sessions and Senator Shelby. There was included in that bill language that would have immediately prevented the state of Georgia from continuing to withdraw water from the top of the basin at Lake Lanier.

While I recognize that the language did not directly address water management of the entire basin, it was our hope that, by cutting Georgia off at the source and by changing the status quo we have today, we would be able to compel the state to finally come to the table and to work with our Governor and the Governor of Alabama to negotiate that tri-state compact.

The issue is so important to me that I made and will continue to make any legislative solution to address this water flow as my number-one priority when we continue to debate that bill in the

Senate. Unfortunately, the Georgia delegation felt equally as strong. And due to their opposition, the language was ultimately removed on the floor of the Senate, as Senator Nelson previously outlined. And then any efforts that we made thereafter to reinsert the language or to insert alternative language to address the water-flow issues in the region, they were blocked.

Now, I wish that Chairwoman Boxer was here today or any other member of the U.S. Senate had taken the time to visit Franklin County. But they will read this record, and they will hear about this meeting. Because I think when they do, they will think twice about their decision to accommodate the Georgia delegation at the expense of the hardworking men and women of this county and this community.

[Applause.]

Senator RUBIO. Anyone who is in this meeting today, no matter what state you are from, would recognize that a solution is required. And it is not just required today, it is not required tomorrow, it was required yesterday, it was required several years ago, predating my service in the Senate. And we simply cannot continue to wait.

And so the first purpose of this meeting is to provide the public, the country, the Senate, the House, and the president of the United States with firsthand knowledge of why we continue to fight for freshwater flows into Apalachicola Bay.

I feel the second purpose of this hearing is equally important. The hearing is entitled, "The Effects of Water Flows in Apalachicola Bay: Short- and Long-Term Perspectives." Today I, along with Senator Nelson, would also like to examine the other tools that we have in our toolbox at our disposal as we work to solve the water-flow issue and mitigate the economic damage that has already been incurred by Franklin County and its community.

I am thankful that Colonel Chytka is here, only 2 weeks into his new command post, and he took the time to join us here today. The Army Corps is working to draft a Water Operations Manual for the entire ACF Basin. And I believe that it is our responsibility to ensure the Colonel is aware of exactly what is at stake here in Florida as he begins his assessment of exactly how the basin should be managed.

While I strongly disagree with the Corps' interpretation of the law, that Georgia has the congressional authority to continue to withdraw additional water, I am hopeful that we can work together with the Army Corps in the interim to create a management system that appropriately accounts for the freshwater flows necessary for the ecosystem and for the fisheries in the bay.

Additionally, recognizing the need to mitigate the economic and ecological damage already done, I am thankful that the National Marine Fisheries Service is attending here today to highlight the disaster declaration from the Department of Commerce, as requested by Governor Scott and supported by the entire Florida delegation in the region.

I was pleased to hear that the department yesterday has indeed declared a fishery disaster. I have the letter right here that they issued to our offices yesterday. And I remain committed to working to secure the Federal funding that we are going to need now so

that it is sent to Franklin County as soon as possible. And I know that Senator Nelson is equally committed, as is Congressman Southerland.

And, finally, I am thankful that our third panel, all distinguished members of this community, are here to provide testimony to further support our efforts both in the short term and the long term and at the state and Federal level to find a solution to this issue once and for all.

The bottom line is the people of Franklin County cannot continue to wait any longer, and it is our responsibility, it is our job to take advantage of every tool that we have at our disposal in Congress to act, to address this issue, to make sure that it is addressed once and for all.

With that, thank you so much for having us here today. And we look forward to your testimony and to learning more about this and informing the public and our colleagues as a result of your testimony.

Senator NELSON. And on a going-forward basis, Senator Rubio has mentioned that now that the disaster declaration is there, we have to get it funded. And, as you know, that hasn't been an easy task on appropriations on anything. So we will be looking at every possible source of funding.

Perhaps once the judge in Federal court in New Orleans decides on the fine on BP and the money starts to flow through the RESTORE Act, then perhaps that would be another source of funding. But that is one of the first orders of business that we are going to have to approach now that the declaration is already in effect.

Now, the way we have organized the Senate Commerce Committee hearing is we have three panels. We first ask the Congressman from the Second District, the resident Congressman who knows all of these issues very well, to testify.

The second panel will be other government witnesses. We have NOAA represented by the National Marine Fisheries Service. We have the Corps of Engineers. We have the Northwest Florida Water Management District.

And then we will go to the third panel, and we will hear from the Executive Director of the Apalachicola Riverkeeper and also the Franklin County Seafood Workers Association, as well as the Florida Sea Grant College Program and the Professor of the School of Forest Resources and Conservation from the Institute of Food and Agricultural Sciences at the University of Florida.

And so those are the three panels.

And to kick us off, Congressman, we are honored to have you. Thank you for representing this area. Thank you for carrying the torch in the House of Representatives. And as Senator Rubio said, the funding is not going to be easy, but we are going to have to find it.

Congressman, if you would share with us.

**STATEMENT OF HON. STEVE SOUTHERLAND II,
U.S. REPRESENTATIVE, SECOND CONGRESSIONAL DISTRICT,
FLORIDA**

Mr. SOUTHERLAND. Thank you, Senator Nelson. And, Senator Rubio, I thank you as well. What a great service to this area, to

highlight this issue that both of you have been working on for an awful long time. And so thank you very much.

I do have some prepared remarks that I would like to share very briefly, and then finally just share some comments from my heart. And then I will get on to the other panels that we have.

But, Senator Nelson, Senator Rubio, I do want to thank you for holding this timely hearing on the impact of low water flows from the Apalachicola-Chattahoochee-Flint, the ACF, river system on the Apalachicola Bay. As the member of Congress representing the City of Apalachicola, I have seen firsthand the devastating impact of reduced downstream flows on this community's ecosystem, environment, and economy.

Additionally, I would like to express my appreciation to Governor Scott, who has been an incredible leader and tireless advocate in our collective efforts to revive Apalachicola Bay's collapse as well as to save this national treasure.

Historically, Apalachicola Bay has provided more than 90 percent of Florida's oyster harvest and nearly 10 percent of the Nation's oyster supply, serving as a major economic driver for our state. The low flows from the ACF system have decimated the local oyster industry and, by extension, Apalachicola and the surrounding north Florida region that depend on this industry's success.

In May 2013, I authored a letter on behalf of the Florida congressional delegation to House Transportation and Infrastructure Committee Chairman Shuster and Ranking Member Rahall expressing our concerns regarding the present situation in the Apalachicola Bay.

We understand that the Army Corps of Engineers is diverting limited and precious freshwater to the metro Atlanta area, reducing flows down the ACF river system, and thereby preventing an adequate water supply from reaching the Apalachicola River Basin and Bay in the Florida panhandle.

Florida's House delegation recognizes the need for swift and decisive action to preserve Apalachicola Bay's oyster industry as well as its economy. And we have requested that a legislative solution be included in the House Water Resources Development Act, the WRDA bill.

Additionally, I have joined you, Senator Nelson, and you, Senator Rubio, as well as other representatives, Miller and Nugent, in September 2012 requesting that the Department of Commerce issue a fisheries disaster declaration for Florida's oyster-harvesting areas in the Gulf of Mexico.

In furtherance of this request, I am pleased to see that that recent report by the Florida Fish and Wildlife Conservation Commission concluded what we have long known: that the rapid and unprecedented commercial oyster fishery failure on Florida's Gulf Coast was the result of upstream consumption and water management policies which exacerbated the impact of severe drought conditions. These factors are outside the fishery manager's control.

National Marine Fisheries Service's disaster relief funds would allow for the further development of critical research into the causes of the bay's collapse as well as provide important relief to the impacted industries. Consequently, I am very pleased to learn

yesterday that the Secretary of Commerce has determined that a fishery resource disaster has occurred along Florida's Gulf Coast.

What is more, the Corps' forthcoming updated Water Control Manual for the ACF river system is of great interest. Over 20 years of increasingly contentious litigation has been unable to provide for an adequate solution to these so-called water wars, one that allocated Florida its fair share of the resource.

Therefore, I am particularly interested in hearing directly from the Corps on its proposals and updates and expect that they will take into account the pressing and dire nature of the situation here in Apalachicola when considering changes to its draft water control plan for Lake Lanier and the entire ACF system.

Finally, Florida has proactively engaged in a wide variety of responsible conservation measures aimed at achieving more efficient management of our limited water supply. It is past time that Georgia began to engage in similar conservation measures.

[Applause.]

Mr. SOUTHERLAND. I would urge the Corps to mandate that Georgia implement such practices in their draft water control plan.

I am hopeful that this important hearing will increase congressional awareness regarding the plight of the hardworking Floridians, many of whom are present here today, who have long made their living on these waters, whose jobs and livelihoods are now in jeopardy.

I know that I made reference in my prepared comments regarding the May 13 letter that I would ask if we could incorporate into the congressional record.

Senator NELSON. Without objection.

Mr. SOUTHERLAND. Thank you very much.

[The letter referred to follows:]

CONGRESS OF THE UNITED STATES
Washington, DC, May 13, 2013

Hon. BILL SHUSTER,
Chairman,
House Committee on Transportation and
Infrastructure,
Washington, DC.

Hon. NICK J. RAHALL II,
Ranking Member,
House Committee on Transportation and
Infrastructure,
Washington, DC.

Dear Chairman Shuster and Ranking Member Rahall:

As the House Committee on Transportation and Infrastructure drafts a Water Resources Development Act (WRDA), we urge you to address an issue of tremendous economic and environmental consequence to the State of Florida.

We believe that the Army Corps of Engineers is overstepping its authority by reallocating water from Georgia's Lake Lanier to Atlanta's metropolitan area without proper Congressional oversight. By diverting this limited resource, the Corps is reducing the freshwater flow down the Apalachicola-Chattahoochee-Flint (ACF) River System and, thereby, preventing an adequate water supply from reaching the Apalachicola River Basin and Bay in the Florida panhandle.

Historically, Apalachicola Bay has provided more than 90 percent of Florida's oysters harvest and nearly 10 percent of the Nation's oyster supply, serving as a major economic driver for the state. The low flows from the ACF system have decimated the local oyster fishery and, by extension, Apalachicola and the surrounding North Florida region that depend upon the industry's success.

We are hopeful that you will work closely with our delegation, specifically the six Florida members of the Committee on Transportation and Infrastructure, to ensure that a legislative solution is included in the Water Resources Development Act. We

thank you for your consideration and look forward to working with you on this critically important issue for our state and region.

Sincerely,

STEVE SOUTHERLAND II (FL-02)
Member of Congress
JOHN L. MICA (FL-07)
Member of Congress
DEBBIE WASSERMAN SCHULTZ (FL-23)
Member of Congress
ILEANA ROS-LEHTINEN (FL-27)
Member of Congress
GUS M. BILIRAKIS (FL-12)
Member of Congress
VERN BUCHANAN (FL-16)
Member of Congress
DENNIS A. ROSS (FL-15)
Member of Congress
KATHY CASTOR (FL-14)
Member of Congress
BILL POSEY (FL-08)
Member of Congress
THEODORE E. DEUTCH (FL-21)
Member of Congress
TREY RADEL (FL-19)
Member of Congress
RON DeSANTIS (FL-06)
Member of Congress
ALAN GRAYSON (FL-09)
Member of Congress

CORRINE BROWN (FL-05)
Member of Congress
C.W. BILL YOUNG (FL-13)
Member of Congress
ANDER CRENSHAW (FL-04)
Member of Congress
JEFF MILLER (FL-01)
Member of Congress
MARIO DIAZ-BALART (FL-25)
Member of Congress
ALCEE L. HASTINGS (FL-20)
Member of Congress
THOMAS J. ROONEY (FL-17)
Member of Congress
FREDERICA S. WILSON (FL-24)
Member of Congress
RICHARD B. NUGENT (FL-11)
Member of Congress
TED S. YOHIO (FL-03)
Member of Congress
PATRICK MURPHY (FL-18)
Member of Congress
JOE GARCIA (FL-26)
Member of Congress
LOIS FRANKEL (FL-22)
Member of Congress

Mr. SOUTHERLAND. I do also want to state for those in attendance today that this letter had unanimous support by the Florida delegation in the House of Representatives. All 27 members, Republican and Democrat, signed on to this letter. So there is great agreement by our state and I know by the two of you gentlemen representing us in the Senate to solve this issue in a way that is fair but also truly gets to the heart of the issue.

So thank you for allowing me to incorporate that into the Congressional Record.

And, finally, before I conclude my comments, I want to say some things from the heart. I want to speak off the page here.

It is a tremendous honor to represent a district that my family has lived in for 200 years. We are not fly-by-night here. The people that are sitting behind me are dear, dear to me. It is an honor to have the two of you here to hear their plight.

You know; this is not new to you. Both of you have been working on this issue for a long time. But you learn more of the issue when you come here. Because, Senator Rubio, as you mentioned a few moments ago, this is not just about oysters, this is about people. And we are not just growing oysters here; we have a responsibility of growing families.

And what we are seeing here, the devastation, the injustice of this issue, it is not just about oysters. It is affecting families. It is affecting children. As a former Chairman of the Early Learning Coalition of Northwest Florida, I know firsthand, for 5 years in Franklin County, understanding the challenges of the hardworking

men and women here that are doing everything they can to provide a brighter future for their children.

We need this subject to be highlighted. And you have done yeoman's work in the Senate to bring this attention to people outside of our region.

You are right, Senator Nelson, we have to find the funding. It is imperative that we find the funding to do the responsible thing. Now, that means that we have to make hard choices. I have found in Washington, D.C., in the short 30 months that I have been there, that is not always popular.

But I will say this: This is long overdue. And your presence here today, it will just continue to shed greater light on the problem.

And we have dear friends north of the state line. Our dear colleagues from Georgia, they are representing their folks. I understand that. But as I travel over to Lake Lanier and I see what they are doing with their water and I come down here and I see what we are not doing with ours, I would say it is time for Florida to get its fair shake.

And so I just want to say to you how much I appreciate you being here.

I also want to say that over the last 30 days I have learned to come to appreciate what this county is doing, their county commission, their county staff. They are working incredibly hard.

I want to thank the seafood industry and what they are doing. They are on the same page. They understand that if they do not have more freshwater flowing down that river, that they can't grow the families and they cannot build to the heritage and to the legacy that is the standard here in Apalachicola and Franklin County.

This is about real people. And today, this hearing, I hope that the panels that we hear, that they give you information, they provide you data, good data, they talk about the things that we might not hear if we don't hear from them. But with that good data, it takes courage for us to do the right thing in Washington, D.C.

So with those comments being said, again, I am humbled to be here, and it is a great honor to have you here.

And, with that, I would yield back any remaining time that I might have. And thank you again for the opportunity to share my thoughts.

[The prepared statement of Mr. Southerland follows:]

PREPARED STATEMENT OF REPRESENTATIVE STEVE SOUTHERLAND II (FL-2)

Senators Rubio and Nelson, I want to thank you for holding this timely hearing on the impact of low freshwater flows from the Apalachicola-Chattahoochee-Flint (ACF) River System on Apalachicola Bay. As the Member of Congress representing the City of Apalachicola, I have seen firsthand the devastating impact of reduced downstream flows on this community's ecosystem, environment, and economy.

Additionally, I would like to express my appreciation to Governor Scott—who has been an incredible leader and tireless advocate in our collective efforts to revive Apalachicola's collapsed Bay and save this national treasure.

Historically, Apalachicola Bay has provided more than 90 percent of Florida's oyster harvest and nearly 10 percent of the Nation's oyster supply, serving as a major economic driver for the state. The low flows from the ACF system have decimated the local oyster industry, and, by extension, Apalachicola and the surrounding North Florida region that depend on the industry's success.

In May 2013, I authored a letter on behalf of the Florida Congressional delegation to House Transportation and Infrastructure Committee Chairman Shuster and Ranking Member Rahall expressing our concerns regarding the present situation in

Apalachicola Bay. We understand that the Army Corps of Engineers (Corps) is diverting limited and precious freshwater to the metro-Atlanta area, reducing flows down the ACF River System and, thereby, preventing an adequate water supply from reaching the Apalachicola River Basin and Bay in the Florida panhandle. Florida's House delegation recognizes the need for swift and decisive action to preserve Apalachicola Bay's oyster industry, and we have requested that a legislative solution be included in the House Water Resources Development Act.

Additionally, I joined with Senators Rubio and Nelson, as well as Representatives Miller and Nugent, in September 2012, requesting that the Department of Commerce issue a fisheries disaster declaration for Florida's oyster harvesting areas in the Gulf of Mexico. In furtherance of this request, I was pleased to see that a recent report by the Florida Fish and Wildlife Conservation Commission concluded what we have long known, that "the rapid and unprecedented commercial oyster fishery failure on Florida's Gulf Coast was the result of upstream consumption and water management policies . . . which exacerbated the impact of severe drought conditions. . . . These factors are outside of the fishery manager's control." Recognizing that National Marine Fisheries Service (NMFS) disaster relief funds would allow for the further development of critical research into the causes of the Bay's collapse, as well as provide important relief to the impacted industries, I look forward to hearing from representatives of NMFS as to the status of our request.

What's more, the Corps' forthcoming updated Water Control Manual for the ACF River system is of great interest. Over twenty years of increasingly contentious litigation has been unable to provide for an adequate solution to these so-called "water wars"—one that allocated Florida its fair share of the resource. Therefore, I am particularly interested in hearing directly from the Corps on its proposed updates and expect that they will take into account the pressing and dire nature of the situation here in Apalachicola when considering changes to its draft water control plan for Lake Lanier and the entire ACF system.

Finally, Florida has proactively engaged in a wide variety of responsible conservation measures aimed at achieving more efficient management of our limited water supply. It is past time that Georgia begin to engage in similar conservation measures, and I would urge the Corps to mandate that Georgia implement such practices in their draft water control plan.

I am hopeful that this important hearing will increase Congressional awareness regarding the plight of the hardworking Floridians, many of whom are present here today, who have long made their living on these waters—and whose jobs and livelihoods are now in jeopardy.

Thank you very much for the opportunity to share my views on this matter. I look forward to working with Florida's Congressional delegation, Senators, and all relevant parties to find a long-term solution to this issue that is respectful of the unique ecosystem, environment, and way of life in this treasured North Florida community.

Senator NELSON. Thank you, Congressman. We appreciate it very much. We are enjoying your hospitality here in Apalachicola, along with the hospitality that is so evident from everyone.

Senator Rubio and I do not have any questions for you. You have covered it.

So I would like to ask the second panel if you would come up, please.

While they are being seated, we will hear from Ms. Emily Menashes. She is Acting Director of the Office of Sustainable Fisheries, the National Marine Fisheries Service, which is a part of NOAA, the National Oceanographic and Atmospheric Administration, all of which is a part of the Department of Commerce.

And then we will hear from Colonel Jon Chytka. He is the Mobile District Commander, U.S. Army Corps of Engineers, and then hear from Mr. Jon Stevenson, the Executive Director of the Northwest Florida Water Management District.

And we will take them in that order.

Now, we have a Mr. Taylor here. You are with the Colonel?

Colonel TAYLOR. Yes, sir.

Senator NELSON. OK. Good.

All right, let's start with Mrs. Menashes.

What we will do is we will put your written testimony in the record of the Committee, and what I would like you to do is to summarize your comments in about five minutes, if you would.

**STATEMENT OF EMILY MENASHES, ACTING DIRECTOR,
OFFICE OF SUSTAINABLE FISHERIES, NATIONAL MARINE
FISHERIES SERVICE, NATIONAL OCEANOGRAPHIC
AND ATMOSPHERIC ADMINISTRATION,
U.S. DEPARTMENT OF COMMERCE**

Ms. MENASHES. Certainly.

Good morning, Mr. Chairman and Ranking Member Rubio. My name is Emily Menashes. I am the Acting Director of the Office of Sustainable Fisheries for NOAA's National Marine Fisheries Service.

Thank you for the opportunity to testify before you today on the fisheries disaster determination process and the status of the request by the state of Florida to declare a commercial fishery failure for Florida's oyster-harvesting areas in the Gulf of Mexico.

Before I begin, I would like to add one point that was not included in my written testimony. As you know, in the fall of 2012, Governor Scott asked then-Acting Secretary Rebecca Blank to declare a commercial fishery failure for Florida's oyster industry. His request stated that oyster populations on Apalachicola Bay's primary oyster-producing reefs were in poor condition and named excessive drought conditions in the bay and elsewhere in the Florida panhandle as the primary cause of the decline.

Last week, the state provided us with the additional information and analysis we needed to determine whether the situation in the bay qualifies as a fishery disaster. Based on this information, yesterday Secretary Pritzker determined that a fishery resource disaster did occur, which resulted in a commercial fishery failure for the oyster fishery of the west coast of Florida, especially in the Apalachicola Bay area.

The information provided by the state indicates real and projected declines in oyster landings and revenues that meet the economic thresholds necessary to warrant a disaster determination.

The basis for this determination is the following three factors: one, a drought throughout the southeastern U.S. that has led to below-average river flows; two, reduced downstream river flow from man-made dams along these rivers; and, three, increased salinities in the bays that not only stressed the oyster populations but allowed a persistent occurrence of oyster predators, such as stone crab and oyster drills.

I know that this has been a long process and understand that there has been significant impact on the local economy. We worked closely with Florida to assess the relevant data, and thanks to this productive exchange, we were able to move quickly and make this determination within days of receiving the necessary information from the state.

The Secretary of Commerce is authorized under the Magnuson-Stevens Act and the Interjurisdictional Fisheries Act to make fisheries disaster determinations. Fisheries are an essential part of

coastal economies. They provide jobs for fishermen, fish processors, and related maritime support industries.

However, fisheries are subject to a number of factors that can cause sudden and unexpected losses, leading to serious economic impact for fishermen and their communities. These include hurricanes, oil spills, harmful algal blooms, and other causes, both natural and man-made, that result in a commercial fishery to fail.

Under both statutes, the Secretary may provide disaster assistance for a wide range of activities, including direct assistance to fishermen, restoration for research purposes, retraining, among other activities. Under both statutes, a request for a disaster determination is typically made by the Governor of a state.

And, in general, the process for conducting a determination is that an eligible entity requests the disaster determination from the Secretary of Commerce. Following receipt of that information, the Fisheries Service conducts an evaluation of the information provided. The secretary will make a determination based on this evaluation. Congress may decide to appropriate funds for fishery disaster relief. And then if Congress appropriates funds, we would work with the affected entities to distribute them.

Three requirements must be met in order for the Secretary to make a positive fishery disaster determination. One, there must be a fishery resource disaster. Two, the cause for the disaster must be an allowable cause. And, three, there must be economic impact stemming from the disaster that leads to a commercial fishery failure.

We review the best scientific information available to evaluate each requirement has been met and actively coordinate with the affected state or community to consider information and supporting data. If the request does not contain all of the data required to make a determination, we work with the affected state or community to obtain needed information.

There is no standing fund for fishery disaster relief. However, if Congress appropriates funds for a disaster, we work with the state to develop a spending plan to address the needs. The Secretary may provide assistance in the form of a grant, cooperative agreement, loan, or contract, following congressional guidance, statutory authority, and the appropriate administrative process.

NOAA will continue to work closely with Florida on this issue. Thank you for the opportunity to discuss our disaster determination process and the request from the state of Florida. And I am happy to answer any questions you may have.

[The prepared statement of Ms. Menashes follows:]

PREPARED STATEMENT OF EMILY MENASHES, ACTING DIRECTOR, OFFICE OF SUSTAINABLE FISHERIES, NATIONAL MARINE FISHERIES SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE

Good afternoon, Mr. Chairman and Members of the Committee. Thank you for the opportunity to testify before you today on the *Effects of Water Flows on Apalachicola Bay: Short and Long Term Perspectives*. My name is Emily Menashes and I am the Acting Director of the Office of Sustainable Fisheries for the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS). NMFS is dedicated to the stewardship of living marine resources through science-based conservation and management.

The Secretary of Commerce is authorized under the *Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)* and the *Interjurisdic-*

tional Fisheries Act to issue fisheries disaster declarations, which enable Congress to provide fisheries disaster assistance to affected States. In this testimony, I will outline the process for issuing a disaster declaration under the *Magnuson-Stevens Act* and the *Interjurisdictional Fisheries Act* and the NMFS Disaster Assistance Policy. Last, I will highlight the status of the pending request for fisheries disaster assistance by the State of Florida to declare a commercial fishery failure for Florida's oyster harvesting areas in the Gulf of Mexico.

NOAA Fisheries Disaster Assistance Authorities and Process

Fisheries are an essential part of coastal economies. They provide jobs for fishermen, fish processors, and related maritime support industries. Many coastal communities are economically dependent on fisheries. Because fisheries depend on the productivity of the environment, there are natural variations in the amount of fish caught each year, and in the revenue generated by the fishery. However, fisheries are also subject to a number of factors that can cause sudden and unexpected losses, leading to serious economic impact for fishers and their communities. These factors include hurricanes and typhoons that can destroy fishing grounds and fishing infrastructure, oil spills, harmful algal blooms, and others, both natural and man-made, such as overfishing, that cause a commercial fishery to incur harm or fail.

A fishery disaster refers to a commercial fishery failure, a catastrophic regional fishery disaster, significant harm incurred, or a serious disruption affecting future production due to a fishery resource disaster arising from natural or undetermined causes, or, under the *Magnuson-Stevens Act*, man-made causes beyond the control of fishery managers to mitigate through conservation and management measures. Two statutes, the *Magnuson-Stevens Act*, Sections 312(a) and 315, and the *Interjurisdictional Fisheries Act*, Sections 308(b) and 308(d), provide the authority and requirements for fishery disaster determinations.

Under the *Magnuson-Stevens Act*, Sections 312(a) and 315, the Secretary may provide disaster assistance for assessing the economic and social effects of a commercial fishery failure, for activities to restore the fishery or prevent a similar failure in the future, and for assisting fishing communities. In order to receive assistance under Section 315 of the *Magnuson-Stevens Act*, a positive *Magnuson-Stevens Act* 312(a) determination is also needed. Under the *Interjurisdictional Fisheries Act*, Section 308(b), the Secretary may provide assistance to restore the fishery affected by the disaster. Also, under the *Interjurisdictional Fisheries Act*, Section 308(d), the Secretary may provide disaster assistance to persons and projects to alleviate harm incurred as a result of a fishery resource disaster.

Under both statutes, a request for a fishery disaster determination is generally made by the Governor of a State, or by an elected or duly appointed representative on an affected fishing community, although the Secretary of Commerce may also initiate a review at his or her own discretion. In general, the process for conducting a fishery disaster determination is:

- An eligible entity requests a fishery disaster determination from the Secretary of Commerce.
- NMFS conducts an evaluation to determine whether the circumstances are consistent with relevant statutes and whether a qualifying fishery disaster occurred.
- The Secretary makes a determination based on the evaluation and notifies the requester of the determination.
- Congress may appropriate funds for fishery disaster relief.
- If Congress appropriates funds, NMFS works with the affected entities to distribute the funds consistent with the statutory requirements and conditions of the appropriation.

Three requirements must be met in order for the Secretary to make a positive fishery disaster determination:

1. There must be a fishery resource disaster as defined by the *Magnuson-Stevens Act*, or the *Interjurisdictional Fisheries Act*.
2. The cause for the fishery resource disaster must be an allowable cause under the *Magnuson-Stevens Act*, or the *Interjurisdictional Fisheries Act*.
3. There must be economic impact stemming from the fishery resource disaster that supports a determination of a commercial fishery failure under the *Magnuson-Stevens Act* 312(a) and the *Interjurisdictional Fisheries Act* 308(b), a serious disruption affecting future production due to a fishery resource under the *Interjurisdictional Fisheries Act* 308(b) or harm incurred under the *Interjurisdictional Fisheries Act* 308(d).

For all three requirements, NMFS will review the best scientific information available to evaluate if the requirements have been met and will coordinate with the affected State or community to consider information and supporting data that the State or community provides.

To address the first requirement, whether a fishery resource disaster occurred, NMFS evaluates whether there is a sudden, unexpected, large decrease in fish stock biomass or other change that results in significant loss of access to the fishery resource, which could include loss of fishing vessels and gear, for a substantial period of time.

For the second requirement, NMFS evaluates whether there is an allowable cause under the *Magnuson-Stevens Act* or *Interjurisdictional Fisheries Act*. Under Section 312(a) of the *Magnuson-Stevens Act*, allowable causes are natural causes, undetermined causes, or man-made causes beyond the control of fishery managers to mitigate through conservation and management measures. Regulatory or judicial actions do not constitute “man-made” causes, except where imposed to protect human health or the marine environment. Additionally, under Section 312(a) of the *Magnuson-Stevens Act*, the contribution of overfishing to a fishery resource disaster or subsequent commercial fishery failure must be considered in the context of the governing statutory requirements and other factors contributing to the disaster or fishery failure. There is a presumption against a finding of a fishery resource disaster when overfishing is occurring in a fishery. However, the fact that overfishing occurred or is occurring does not preclude a determination that a fishery disaster occurred, if other factors are more central to the disaster.

Under Section 308(b) of the *Interjurisdictional Fisheries Act*, the allowable causes are natural or undetermined causes. Under the *Interjurisdictional Fisheries Act*, Section 308(d), the Secretary must determine that harm was incurred as a direct result of a fishery resource disaster arising from a hurricane or other natural disaster.

For the third requirement, particularly in the case of whether a commercial fishery failure has occurred, NMFS evaluates whether the commerce in or revenues from the fishery materially decreased or markedly weakened due to a fishery resource disaster, such that those engaged in the fishery suffered severe economic hardship. The types of economic, social, and cultural information that NMFS considers when determining whether there was a commercial fishery failure occurred include:

- Fishery characteristics (size and value; number of participants; environmental, economic and sociocultural behaviors; whether jobs are full-or part-time; and landings data).
- Percent decline in landings, economic impact, revenues, or net revenues by vessel category, port, etc. This should represent the proportion of the affected fishery resource compared to the commercial fishery as a whole (not just for the affected fishery resource).
- Number of participants involved by vessel category, port, etc.
- Length of time the resource (or access to it) will be restricted.
- Documented decline in the resource.
- Other relevant information.

The NMFS Disaster Assistance Policy identifies thresholds to determine if there was a commercial fishery failure, based on the loss of 12-month revenue compared to average annual revenue in the most recent 5-year period:

- Revenue losses greater than 80 percent will result in a determination of a commercial fishery failure.
- Revenue losses between 35 percent and 80 percent will be evaluated further (e.g., to determine if economic impacts are severe).
- Revenue losses less than 35 percent will not be eligible for determination of a commercial fishery failure, except where the Secretary determines there are special and unique circumstances that may justify considering and using a lower threshold in making the determination.

Often the request for a fishery disaster determination does not contain all the data required to make an immediate determination, and in those cases NMFS will work with the affected State or community to obtain the data, which often takes some time. Thus, the more information an initial request includes regarding a potential disaster, the better able NMFS is to respond quickly to a request.

The Secretary will notify the requester of the final determination of whether a fishery disaster has occurred. Under both the *Magnuson-Stevens Act* and the *Inter-*

jurisdictional Fisheries Act, if Congress appropriates funds for a fishery disaster, the Secretary may provide disaster assistance in the form of a grant, cooperative agreement, loan, or contract, following Congressional guidance and the appropriate administrative processes.

Florida Oyster Disaster Assistance Request

In letters dated September 6, 2012, and November 7, 2012, Governor Rick Scott of Florida asked Acting U.S. Department of Commerce Secretary Rebecca Blank to declare a commercial fishery failure for Florida's oyster harvesting areas in the Gulf of Mexico. Those letters stated that oyster populations on Apalachicola Bay's primary oyster producing reefs were in poor condition and identified the lack of freshwater flow from the Apalachicola River and associated increases in water salinity as the primary cause of the decline. The Governor provided a report from Florida's Department of Agriculture and Consumer Services and indicated that additional landings and revenue data were forthcoming.

The Florida Fish and Wildlife Conservation Commission followed up with draft documentation in April 2013. NMFS reviewed the draft documentation in the context of our Disaster Assistance Policy and provided the Commission comments and questions on April 23, 2013. The Commission indicated it would provide a revised report in early May 2013, but is still working to finalize the report. NMFS' Southeast Region is in close communication with Commission leadership about the status of the report. We have been advised the report is complete, undergoing interagency review within the state, and will be delivered to us shortly.

Also in late April 2013, Florida Sea Grant released a report entitled *Apalachicola Bay: Oyster Situation Report*, which contains relevant data for the disaster assistance request. The report summarizes efforts conducted through the University of Florida Oyster Recovery Team, in collaboration with various stakeholders, to describe conditions in Apalachicola Bay prior to and after the collapse of the oyster fishery. The report characterizes conditions in the Bay, reviews possible causes for the fishery collapse, and outlines a plan for future monitoring, research and fishery management.

Conclusion

NOAA will continue to work closely with the State on this issue. Thank you for the opportunity to discuss NMFS' disaster determination process and the request from the State of Florida to declare a commercial fishery failure for Florida's oyster harvesting areas in the Gulf of Mexico. I am happy to answer any questions you may have.

Senator NELSON. Thank you, Ms. Menashes.

Colonel Chytka? Likewise, your statement will be entered into the record, and if you would share with us for about five minutes.

STATEMENT OF COLONEL JON J. CHYTKA, COMMANDER, MOBILE DISTRICT, U.S. ARMY CORPS OF ENGINEERS, DEPARTMENT OF THE ARMY

Colonel CHYTKA. Mr. Chairman and Senator Rubio, I am Colonel Jon Chytka, Commander of the United States Army Corps of Engineers, Mobile District. And I am honored to testify before you today on the status of the Corps' water management in the Apalachicola-Chattahoochee-Flint river system.

I assumed command, as Senator Rubio mentioned, on 1 August 2013, and I am aware of the importance of this system to Congress, to the states, and various stakeholders in the ACF Basin.

The ACF Basin originates in northeast Georgia, crosses the Georgia-Alabama border into central Alabama, and follows the state line south until it terminates in Apalachicola Bay. There are 5 Federal reservoirs and 10 non-Federal reservoirs in the ACF Basin.

The Corps' Mobile District is currently updating the system-wide Master Water Control Manual for the ACF river system through an open and deliberative process that includes preparation of an environmental impact statement for the system and solicitation and

consideration of comments from the public and all interested stakeholders.

The purpose of revising the manual is to develop and implement updated system-wide operational schemes for the Federal projects in the basin in accordance with their authorized purposes, in light of the current conditions and applicable law.

Water control manuals assist Federal water managers in operating individual and multiple interdependent Corps reservoirs on the same river system consistent with applicable law. Generally, a water control manual includes technical, hydrologic, geographic, demographic, policy, and other information.

The Corps uses these manuals to inform and guide its decisions on the management of the waters in our reservoirs, which typically involve different operating regimes for times of high water, low water, and normal conditions. The manuals contain water control plans for each of the reservoirs in the basin and specify how the various reservoirs will be operated as a system.

As part of our update process, the Corps is preparing an EIS for the Federal system and solicited and will consider comments from the public and interested stakeholders.

These actions will result in updated plans and manuals for the system and are consistent with applicable law and take into account the changes in the basin's hydrology and demands from years of growth and development, new and rehabilitated structural features, legal requirements, and environmental issues.

In June 2011, the United States Court of Appeals for the Eleventh Circuit held that municipal and industrial water supply for the City of Atlanta, Georgia, is an authorized purpose of the Lake Lanier project under the River and Harbor Act of 1946 and remanded the matter to the Corps to determine the extent of its legal authority to accommodate the state of Georgia's request in 2000 for additional water supply withdrawals at and below Lake Lanier.

The ACF Water Control Manual update and EIS are being prepared in accordance with the Corps regulations and NEPA, the National Environmental Policy Act, and all other applicable laws. As a part of our effort, the Corps will consult with other Federal agencies as required, including consultation with the U.S. Fish and Wildlife Service.

The draft water control manuals and EIS will be released for public review and comment in accordance with NEPA and requirements of Corps regulations. Similarly, the draft water control manuals and EIS will undergo quality control and quality assurance reviews, which include the agency technical review and the independent, external peer review.

In summary, the purpose, again, of the ACF manual update is to improve the information and guidance that the Corps uses to operate the Federal dams within the basin in accordance with applicable law. We operate these dams for the congressionally authorized purposes as a system and will continue to do so.

Mr. Chairman and members of the Committee, Senator Rubio, this concludes my oral testimony. I look forward to continuing to work with the Committee on these very important issues, answering any questions you may have.

As you recognized, Senator Nelson, I brought the deputy for the Programs and Project Management Division within the Mobile District, Mr. Pete Taylor, to assist in answering the questions, because in my 12 days I have learned a lot but there is probably a lot more that I probably missed.

[The prepared statement of Colonel Chytka follows:]

PREPARED STATEMENT OF COLONEL JON J. CHYTKA, COMMANDER, MOBILE DISTRICT,
U.S. ARMY CORPS OF ENGINEERS, DEPARTMENT OF THE ARMY

Mr. Chairman and Members of the Committee:

I am Colonel Jon Chytka, Commander of the U.S. Army Corps of Engineers Mobile District and am honored to testify before you today on the status of the Corps' Water Management in the Apalachicola-Chattahoochee-Flint (ACF) River system. I assumed command of Mobile District on August 1, 2013 and am aware of the importance of this system to the Congress, the States, and the various stakeholders in the ACF basin.

The Corps' Mobile District is currently updating the system-wide Master Water Control Manual for the ACF River system through an open and deliberative process that includes preparation of an environmental impact statement (EIS) for the system, and solicitation and consideration of comments from the public and all interested stakeholders. The original system-wide Water Control Manual for the ACF was completed in 1958. Between 1990 and 2012, the Corps was involved in litigation that included challenges to the Corps' operation of Federal reservoirs in the system, against a background of disagreement among the states of Alabama, Florida, and Georgia regarding the allocation of waters within the basin. During the pendency of that litigation, the states agreed to a Compact that was approved by Congress in 1997, and which contemplated the states agreeing to formulas for apportioning the surface waters of the basin. The Corps would have endeavored to update its operations, to the extent authorized by law, to implement such an agreement. After the states failed to reach agreement and the Compact expired, the Secretary of the Army directed the Corps to proceed with updating the Federal water control manual for the ACF system. The litigation concluded in 2012 without resolving the states' underlying disputes regarding the allocation of waters among the states, and without specific direction from the courts as to how the Corps should operate the ACF system.

The purpose of revising the manual is to develop and implement updated, system-wide operational schemes for the Federal projects in the basin in accordance with their authorized purposes, in light of current conditions and applicable law. Water control manuals assist Federal water managers in operating individual and multiple, interdependent Corps reservoirs on the same river system consistent with applicable law. Generally, a water control manual includes technical, hydrologic, geographic, demographic, policy, and other information. The Corps uses these manuals to inform and guide its decisions on the management of the waters in our reservoirs, which typically involve different operating regimes for times of high water, low water, and normal conditions. The manuals contain water control plans for each of the reservoirs in the basin system and specify how the various reservoirs will be operated as a system. The manuals also contain drought plans and zones to assist Federal water managers in knowing when to reduce or increase reservoir releases, and how to ensure the safety of dams during extreme conditions such as floods.

As part of the update process, the Corps is preparing an EIS for the Federal system, and solicited and will consider comments from the public and interested stakeholders. These actions will result in updated plans and manuals for the system that are consistent with applicable law and take into account changes in basin hydrology and demands from years of growth and development, new/rehabilitated structural features, legal requirements, and environmental issues.

The ACF basin (Figure 1) originates in northeast Georgia, crosses the Georgia-Alabama border into central Alabama, and follows the state line south until it terminates at Apalachicola Bay, Florida. The basin covers 50 counties in Georgia, 10 counties in Alabama, and 8 counties in Florida, extending a distance of approximately 385 miles; the basin drains 19,600 square miles.

There are five Federal reservoirs and ten non-federal reservoirs in the ACF system. At the headwaters of the system north of Atlanta are Buford Dam and Lake Sidney Lanier. Moving downstream, the remaining Federal reservoirs in the ACF system are West Point Lake Dam and West Point Lake; W.F. George Lock and Dam and W.F. George Lake; Lake George A. Andrews Lock and Dam and George A. An-

draws Lake; and Jim Woodruff Lock and Dam and Lake Seminole, 108 miles upstream of Apalachicola Bay.

In June 2011 The United States Court of Appeals for the Eleventh Circuit held that municipal and industrial water supply for the City of Atlanta, Georgia, is an authorized purpose of the Lake Lanier project under the Rivers and Harbors Act of 1946, and remanded the matter to the Corps to determine the extent of its legal authority to accommodate the state of Georgia's request in 2000 for additional water supply withdrawals at and below Lake Lanier. The citation is: *In Re: MDL-1824 Tri-State Water Rights Litigation*, 644 F.3d 1160 (11th Cir. 2011). In response to that decision, the United States filed a legal opinion of the Chief Counsel of the Corps with the Eleventh Circuit on June 25, 2012, regarding the authority of the Corps to accommodate water supply withdrawals at and below Lake Sidney Lanier under the Rivers and Harbors Act of 1946, Public Law No. 84-841 (July 30, 1956), and the Water Supply Act of 1958.

On October 12, 2012, the Corps published a notice soliciting public comment on revising the scope of the EIS for the ACF water control manual update in light of these developments. The Corps published a revised, Final Updated Scoping Report in March 2013, providing notice that the Corps is evaluating additional water supply alternatives within the scope of the ACF water control manual update and EIS, including Georgia's updated request for water supply. The Corps has not yet decided on a proposed mode of ACF system operations. The proposed operations will be identified in the draft water control manuals and EIS. Those documents will be made available for public comment before any final decision is made on how the system should be operated.

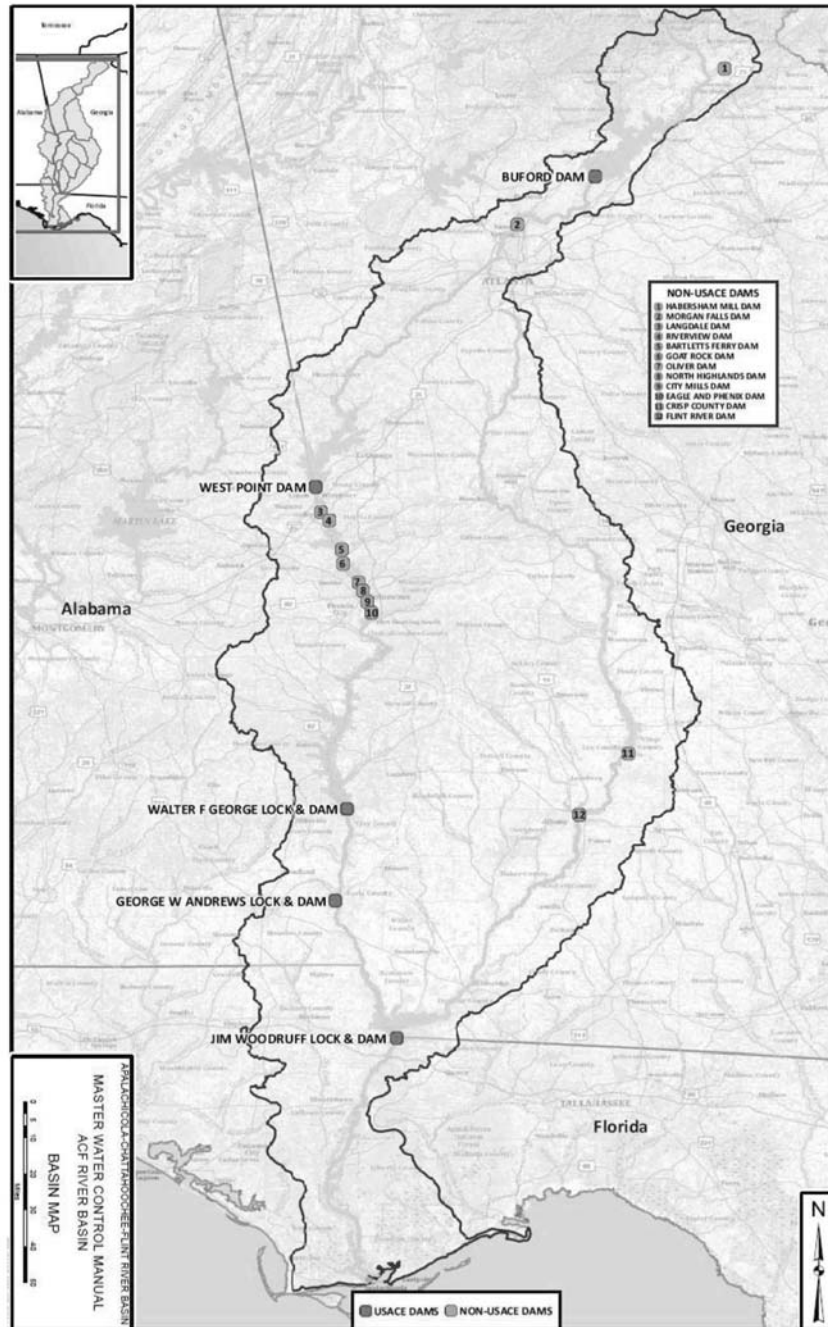
The ACF Water Control Manual update and EIS are being prepared in accordance with Corps regulations, National Environmental Policy Act (NEPA), and all applicable law. As part of this effort, the Corps will consult with other Federal agencies as required, including consultation with the U.S. Fish and Wildlife Service for consideration of impacts to threatened and endangered species. The draft water control manuals and EIS will be released for public review and comment in accordance with NEPA and requirements in Corps regulations. Similarly, the draft water control manuals and EIS will undergo quality control/quality assurance reviews to include agency technical review and independent external peer review.

The Corps is currently in the technical analysis stage of the ACF manual update. We expect to reach the next major milestone in this process about two years from now, when we file a draft EIS with the Environmental Protection Agency (EPA) and release the draft water control manual and draft EIS for public review and comment.

In summary, the purpose of the ACF manual update is to improve the information and guidance that the Corps uses to operate the Federal dams within the basin in accordance with applicable law. We operate these dams for the Congressionally authorized purposes as a system, and will continue to do so. The updates will take into account changes in basin hydrology and demands from years of growth and development, new/rehabilitated structural features, legal requirements, and environmental issues. Throughout this process, the Corps encourages the active participation of all stakeholders, and the Corps will carefully consider all comments received.

Mr. Chairman, Members of the Committee, this concludes my testimony. I look forward to continuing to work with the Committee on these very important issues and answering any questions you may have.

Figure 1. Apalachicola-Chattahoochee-Flint River Basin



Senator NELSON. We understand that, Colonel.

Mr. Taylor, did you want to add anything right now?

Colonel TAYLOR. No, sir. Thank you.

Senator NELSON. OK. When we get into the questions, we want to get past the process and we want to get into some of the solutions.

[Applause.]

Senator NELSON. So we will get to you there.

And now we want to hear from Mr. Jon Steversen, Executive Director of the Northwest Florida Water Management District.

**STATEMENT OF JONATHAN P. STEVERSON,
EXECUTIVE DIRECTOR, NORTHWEST FLORIDA WATER
MANAGEMENT DISTRICT**

Mr. STEVERSON. Thank you, Chairman Nelson, Senator Rubio, and Representative Southerland. Thank you for holding this important hearing about the effects of water flows on Apalachicola Bay and the people here who depend on this system.

I am Jon Steversen, Executive Director of the Northwest Florida Water Management District. And as one of five water management districts in the state, we are responsible for managing and protecting the groundwater and surface-water resources within this region. Under the leadership of Governor Scott, the district works closely with other state and local agencies to safeguard this historically vibrant and economically important system.

I am here today to provide a brief overview on the Apalachicola River and Bay, the ongoing injury to each, and the important environmental and economic impacts.

The Colonel has already described the size of the system and the 20,000 square miles where it meets the Florida line, but I would just like to emphasize that once it hits the Florida line, it runs unimpeded, no reservoirs, no dams, for 106 miles into this bay.

The river's floodplain ecosystem is the largest in Florida. It is rated among the top 10 biodiversity hotspots in the United States. And I reference numerous official designations in my written testimony that signify the importance of the system.

I say all that to say this: It is a big deal. And we recognize that down here, and obviously you do, too, since you are here today, and we appreciate that.

This complex and diverse ecosystem developed and flourished under unimpaired, natural flows from the Chattahoochee and Flint Rivers. These historic flows created and sustained river channel habitat, they maintained suitable salinity levels, and provided essential nutrients to the bay.

The river is the main source of freshwater inflow to the bay and is the lifeblood of this extraordinarily dynamic system. The health and productivity of the bay is strongly influenced by the amount, the timing, and the duration of those freshwater inflows. It is vital that we restore, maintain, or at least mimic this historic flow pattern. Otherwise, this ecosystem and the way of life enjoyed by so many in this room will be lost.

And, unfortunately, Florida cannot control the volume of water entering the state. The lack of water flowing in the river and ulti-

mately to the bay is a direct result of upstream consumption and the Corps' reservoir operations.

Since the 1970s, Georgia's consumption has significantly increased, so much so that it now uses more than 90 percent of the water withdrawn from the system. By comparison, Florida uses about 2.5 percent. The metro Atlanta area alone uses three times the amount of water for public supply than all 16 counties and municipalities of the Florida panhandle combined.

But it is not just Atlanta. We see this dominating use even when comparing agricultural withdrawals among the states. I included this one graphic in my testimony because it so clearly paints the picture of Georgia's approach to this whole situation. When you see the figure, Georgia had nearly 7,200 center pivot irrigation systems in the basin, pumping hundreds of millions of gallons a day. The number of center pivots in southwest Georgia has continued to increase to an estimated 9,200, compared to the 239 such systems in Florida.

And there has been a little finger-pointing lately, saying, Florida, if you really care, you would do like we did, and we, Georgia, instituted a moratorium, no more center pivots. But, Senator Rubio, I know every now and then you just have to have a sip of water. And that would be kind of like you and I deciding to——

Senator RUBIO. Right now.

[Laughter.]

Mr. STEVERSON. —split this pitcher and you drink 90 percent of the pitcher and leave me the backwash and say, "You know what, Steverson? I think you ought not take the rest, because then we are going to be out of water."

[Laughter.]

Mr. STEVERSON. It is just not workable.

But even though we are only a drop in the bucket, we are still minimizing our consumption by implementing a series of conservation measures. We are employing the use of mobile irrigation labs. We are working with farmers to accomplish center pivot retrofits with low-flow nozzles. We are incentivizing sod-based crop rotation. Florida is doing its part. And all of these programs combined are expected to save nearly 9 million gallons per day of water used within the Florida portion of the basin.

And not only are we reducing the quantity of what we use, we are working to improve the water quality of what we contribute to the river and bay. During the upcoming fiscal year, the district has committed \$4.7 million to protecting and restoring this region. Two-point-five of that was proposed by Governor Scott and approved by the Florida legislature to be spent on projects right here in the city of Apalachicola for storm-water improvement of the quality of water flowing to the bay.

But despite our best efforts, flows have been lower and low flows have occurred more frequently and for longer durations than any other time in recorded history. In fact, last year set a record for the least amount of water delivered to the bay since recordkeeping first began in 1923. However, this was not the year with the least amount of rainfall. In 2012, the bay experienced unprecedented damage to its oyster resource as a result of prolonged low-flow conditions.

Now, the Corps operates Buford Dam in Lake Lanier, along with other dams and reservoirs, as an integral part of the ACF system. But since the 1970s, the Corps has entered numerous contracts with Georgia water suppliers to permit withdrawals from the system for municipal and industrial uses. In 1989, the Corps essentially began prioritizing reservoir operations in their draft water control plans for this ever-increasing water supply demand.

These demands have been absorbed not from reservoir storage but entirely from downstream river flows. In other words, every acre-foot of water that Georgia wants is taken directly from the flows that would otherwise reach our bay. These practices continue to occur despite empirical evidence that such operations are devastating the bay and its oyster population.

It is clear that the Apalachicola River needs more flow in order to help the bay recover from these devastating impacts we saw in 2012. The Corps can no longer assume that all needs can be met without proactively insisting on upstream conservation. Revision of their draft water control plan offers an opportunity to restructure the Corps' priority system to assign greater weight to downstream needs and strive to mimic historic flow patterns.

And, Mr. Chairman, I know I am running over, but if I could make one more point, I would really appreciate it.

Senator NELSON. Please.

Mr. STEVERSON. I am sure you already knew or you now appreciate the number of local residents who make their living from the fishing industry here in some form or fashion. And oysters and other local seafood are the linchpin of this region's economic infrastructure. You have talked about the 90 percent of Florida's oysters coming from right here. It also yielded Florida's third-largest shrimp harvest, and it supported an active recreational and commercial fishing industry.

I want to be able—it is going to take a little time. I have been in this issue for over a decade but more directly responsible for a year now, and it is going to take a little time. But in 4 years from now, I want to be able to look in Mr. Hartsfield's eyes over there—you are going to hear from him later—and know that we made an impact, that we made a difference in their lives.

And the bay's ability to continue providing these services is now uncertain. Let's change that.

[Applause.]

[The prepared statement of Mr. Steverson follows:]

PREPARED STATEMENT OF JONATHAN P. STEVERSON,, EXECUTIVE DIRECTOR,
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Senator Nelson, Senator Rubio and Representative Southerland, I am Jon Steverson, Executive Director of the Northwest Florida Water Management District. As one of five water management districts in Florida, the Northwest District is responsible for managing and protecting groundwater and surface water resources for both the citizens and natural resources of this region, including the Apalachicola River and Bay.

Under the leadership of Governor Scott, the District continues to work in close coordination with other state and local agencies to provide technical support and expertise to ensure the protection of the Apalachicola-Chattahoochee-Flint (also known as ACF) River System.

I would first like to thank you for holding this important hearing about the effects of water flows on Apalachicola River and Bay system. On behalf of the District and

the many partners we work with to protect this important water body, I am here today to provide a brief overview on the Apalachicola River and Bay, the ongoing injury to each, and the important economic and environmental impacts.

Introduction and Summary

This testimony is intended to provide the Committee with information on the effect of reduced freshwater inflows into the Apalachicola River and Bay systems in Florida. These fragile systems support a unique, historically vibrant and economically important culture that relies first and foremost on the health of its fisheries, particularly the Eastern oyster. The Apalachicola region and its economy continue to be damaged by ever increasing consumptive uses in Georgia, which were too easily allowed by the U.S. Army Corps of Engineers' previous water management decisions. We believe Georgia needs to responsibly reduce and manage its continuously growing consumption of water, and also that the Corps should ensure that Georgia engages in meaningful conservation when updating its master control manual for the ACF system.

Background on the Resource

To provide a little background, the ACF River Basin covers about 20,000 square miles, most of which is located in Georgia. The Chattahoochee and Flint Rivers both originate in north Georgia, flow south and join in Lake Seminole at the Florida-Georgia line to form the Apalachicola River, which runs unimpeded for 106 miles into the bay. The Apalachicola River's floodplain ecosystem is the largest in Florida and includes over 200 miles of off-channel floodplain, sloughs and streams. Its nontidal floodplain forest exceeds 82,000 acres and is rated among the top 10 biodiversity "hot spots" in the United States. Hundreds of thousands of acres adjacent to the river and bay have been acquired by federal, state, local and private entities to protect this unique environment.

Apalachicola Bay has been one of the most productive estuarine systems in the northern hemisphere and an exceptionally important nursery area for the Gulf of Mexico. Because of its uniqueness, several designations have been granted, signifying the importance of the system. In 1969, the Florida Governor and Cabinet designated 80,000 acres of sovereignty submerged lands as the Apalachicola Bay Aquatic Preserve, and designated the river as an Outstanding Florida Water in 1983. The Apalachicola Bay is also home to the Apalachicola National Estuarine Research Reserve, which is one of only 27 sites so designated by the National Oceanic and Atmospheric Administration (NOAA). It encompasses more than 193,000 acres of land and water and is the largest of all such reserves in the country.

The complex and diverse ecosystem of the Apalachicola River Basin and Bay developed and flourished under unimpaired, natural flows from the Chattahoochee and Flint Rivers. These historic flows created and sustained river channel habitat, interconnected floodplain channels, maintained an appropriate salinity level, and provided essential nutrients to the bay.

The City of Apalachicola and broader Franklin County support many commercial seafood harvesters, processors and dealers whose work contributes substantially to the productivity of the region. The vast majority of local residents make their living from the fishing industry, directly or indirectly. Oysters and other local seafood are the lynchpin of the region's economic infrastructure. Historically, Apalachicola Bay provided approximately 90 percent of Florida's oyster harvest (and 10 percent of the national harvest), supported an active recreational and commercial fishing industry, served as an important nursery area for many marine species, and yielded Florida its third largest shrimp harvest. The bay's ability to continue providing these services is now uncertain.

The river and bay ecosystem, as well as the men and women of this region, depend on timely freshwater flows to remain healthy and productive. The Apalachicola River is the main source of freshwater inflow to the bay. That freshwater flow regulates salinity in the bay in a way that maintains the biological integrity of a variety of sensitive species and habitats that are both ecologically and economically important. Equally significant is the fact that the Apalachicola River discharges nutrient-rich water into the bay, which provides the building blocks of the bay's food web.

In these ways, the river is the lifeblood of this extraordinarily productive estuarine system, which sustains oyster harvesting, shrimping, crabbing and fishing. The health and productivity of the bay is strongly influenced by the amount, timing, and duration of the freshwater inflow from the Apalachicola River. It is vital that we restore and maintain this historic flow pattern. Otherwise, this ecosystem and this way of life for generations of Floridians will be lost.

Adverse Impacts

Unfortunately, Florida cannot control the volume of water entering the State. The region's destiny is subject to upstream influences that have undermined the foundation of the area. The amount of water flowing in the river and ultimately to Apalachicola Bay is a direct result of Georgia's consumption upstream on the Chattahoochee and Flint Rivers and the Corps' reservoir operations on the Chattahoochee.

Since the 1970s, Georgia's consumption has significantly increased; so much such that it now uses more than 90 percent of the water withdrawn from the system. By comparison, Florida uses about 2.5 percent. The metro Atlanta area alone uses three times the amount of water for public supply than all 16 counties and municipalities of the Florida Panhandle combined.

Georgia's continuously growing consumption expands beyond the metro Atlanta area. Another example of this dominating use can be seen by comparing the agricultural withdrawals among the states. As shown in the attached figure (Fig. 1), in 2005, Georgia had nearly 7,200 center pivot irrigation systems, pumping hundreds of million gallons of day, on fields in the lower Flint and Chattahoochee basins. The number of center pivots in Southwest Georgia has continued to increase to an estimated 9,200 today, compared to 239 such systems in the Florida portion of the system.

Even though Florida's consumption in the basin is only a tiny portion of what is used upstream, we are still minimizing our use by implementing a series of conservation measures. This includes working with farmers within the basin to retrofit agricultural irrigation systems for more efficient delivery, as well as introducing incentives for sod-based crop rotation. This year the District will receive State Appropriations to provide additional retrofits within the basin which, combined with programs already in place, is expected to save nearly 9 million gallons per day of water used within the Basin.

At the same time we continue to reduce our already small consumption within the basin, Florida also continues to work to improve the water quality within the river and bay. During the upcoming Fiscal Year, the District has committed \$4.7 million to protecting and restoring the Apalachicola River and Bay, including \$3 million in funding proposed by Governor Scott and approved by the Florida Legislature. This includes \$2.5 million in cooperative funding assistance to the City of Apalachicola to provide stormwater treatment and improve the quality of water flowing into the river and bay.

Despite our best efforts, Apalachicola River flows have been lower and low flows have occurred more frequently and for longer durations than any other time in recorded history. The problem has grown more dire during the last 10 years, and is creating long-lasting impacts to the river and bay. In 2012, Florida experienced widespread damage to its oyster resource as a result of two years of prolonged low-flow conditions. In fact, last year set a record for the least amount of water delivered to the bay since record-keeping first began in 1923, although this was not the year with the least amount of rainfall. The corresponding reduction in freshwater inflow raised salinity levels in the bay well above tolerable thresholds, and the continued lack of inflow precluded any opportunity to reduce salinity levels. It is well documented that elevated salinity levels lead to increased oyster mortality through disease and predation.

State agencies and local fisherman have documented a severe decline in the oyster harvests. Drastic declines in all age classes of oysters suggest that a collapse of the fishery has indeed occurred. The latest state agency reports reveal that oyster production estimates on commercially important oyster reefs are the lowest in the past 20 years. The data suggests that many of the reefs have too few oysters to support commercial harvesting, devastating the livelihoods of the men and women who make their living harvesting, processing or selling oysters on Florida's Gulf Coast.

As a result, Governor Rick Scott requested the Secretary of the U.S. Department of Commerce declare a commercial fishery failure for Florida's oyster harvesting areas in the Gulf of Mexico, pursuant to Section 312 (a) of the Magnuson-Stevens Fishery Management and Conservation Act.

Moving Forward

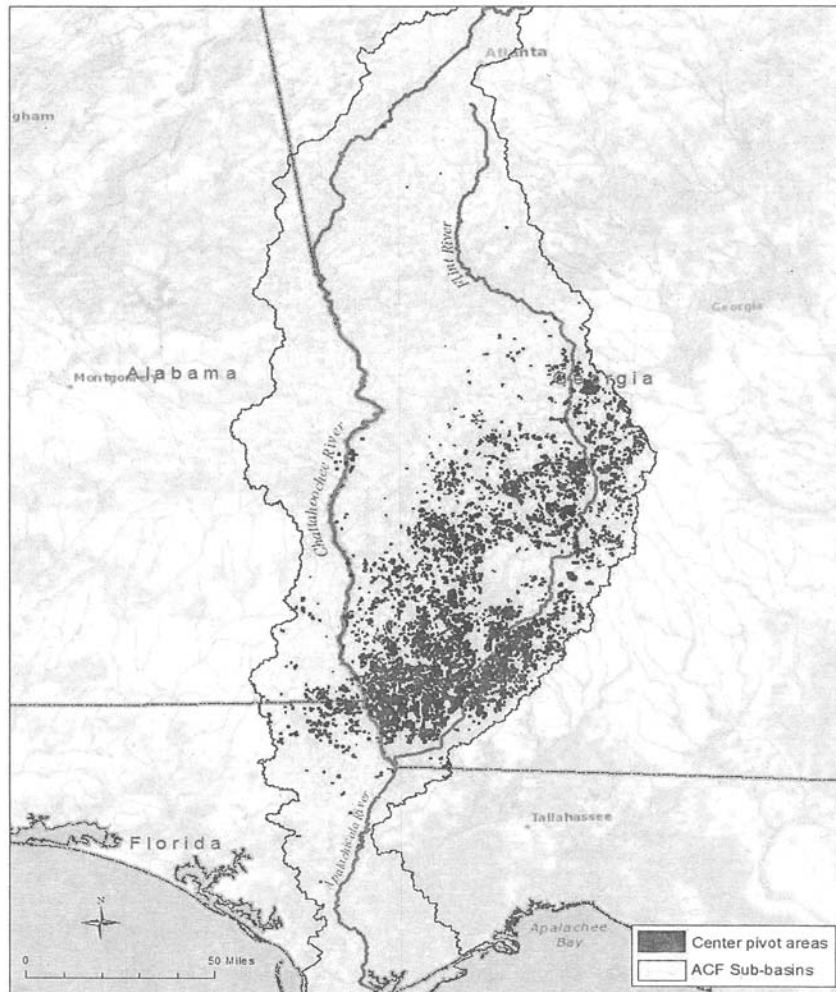
The Corps operates Buford Dam and Lake Lanier, along with the other downstream dams and reservoirs, as an integral part of the ACF system. Since the 1970s, the Corps has entered numerous contracts with Georgia water suppliers to permit withdrawals from the system for municipal and industrial uses. In 1989, pursuant to the Draft Water Control Plan, the Corps essentially began prioritizing reservoir operations to support this water supply demand, which has increased dramatically over time. Under the Corps' present operating schedule, each new demand placed

on the system upstream is absorbed, not from reservoir storage, but entirely from downstream river flows. In other words, every acre-foot of water that Georgia wants is taken directly from flows that would otherwise reach Alabama and Florida. These practices have deprived downstream interests of basic river flow needs, despite the empirical evidence that such operations are devastating Apalachicola Bay and its oyster population.

It is clear that the Apalachicola River needs more flow to help recover from the devastating oyster mortality that occurred in the bay in 2012, as well as the massive die-offs of endangered mussels, decline in fisheries, and drying of the floodplain forest that have occurred in recent years. The Corps can no longer assume that all needs can be met without proactively insisting on upstream conservation. At a minimum, the Corps should mandate that Georgia develop strict conservation measures as a condition to entertaining any further withdrawals from the ACF system. The Corps' current efforts to revise their Draft Water Control Plan offers an opportunity to restructure the priority system they use in existing operations to assign greater weight to downstream needs and strive to mimic historic flow patterns.

Thank you for the chance to talk to you today about one of Florida's most precious resources, the Apalachicola River and Bay.

Figure 1—Center Pivot Irrigation Systems in the ACF Basin



Senator NELSON. Thank you, Mr. Steverson.

Senator Rubio, your questions.

Senator RUBIO. Thank you.

Let me start with Ms. Menashes.

I just wanted to get your sense of, once a disaster is declared, how is the amount of money necessary to mitigate it, how is that determined? What is the process for that?

Ms. MENASHES. We generally work with the state or the affected communities, primarily through the state, to identify the resources that they would need to address the issue. The report from the state did identify revenue impacts; however, that is only one part of what the requester may be looking for to support both addressing social and economic impacts as well as addressing the underlying cause of the disaster.

Disaster funds have been used for a wide variety of activities in the past: direct assistance to fishermen, to fishing communities, but also things like oyster restoration, research, monitoring, and those kinds of activities. So we would really turn to the state to work with the state on identifying the activities that are important for them to address the issue.

Senator RUBIO. Again, so the funding is ultimately designed to mitigate in the short term the damage being done, but it doesn't take away the need to find a long-term solution to the problem.

Ms. MENASHES. Correct.

Senator RUBIO. Mr. Steverson, I was hoping you could elaborate a little bit more, give you a little bit more time to talk about the actions that you are taking to help mitigate the low flows into the bay. Is there any more we can be doing as a state with regards to that?

Mr. STEVERSON. Sure. Thank you for the question, Senator.

And I think on the—because we only control south of the line. Like I said, we are working with the farmers in that basin. And the agricultural basin is a very fertile, productive piece of ground. But we are doing center pivot retrofits. We are using mobile irrigation labs to help these guys actually determine, I can get by with only this much water. And not only does it save the water supply, it saves the farmers money, as well, on their pumping costs.

We have very, very little withdrawal from the river at all. And like I said, it flows unimpeded—no reservoirs, no dams, you know, the way God made it—down. And I don't know what the people of Florida can do to change, but I know what the people of Georgia can do to implement some upstream conservation and do the measures that we are working hard on down here. And I think it is just so often an afterthought, and, you know, the people of Georgia can do a little bit less with their water.

If those low flows are—we are getting low flows, but if their water is low up there, that means they can't ride their favorite jet ski into their favorite little cove or they can't tie off their boat to the dock. For here, it means these guys can't make a living. And so we have got to focus on that upstream conservation.

[Applause.]

Senator RUBIO. Taking off on that, Colonel Chytka, my understanding is that navigation is one of the authorized uses within the basin. Can you speak to how you plan to emphasize navigation in

the operational manual and what, if any, impacts this emphasis is going to have on the bay?

Colonel CHYTKA. Thank you for the question, Senator.

Yes, navigation is an authorized purpose for the ACF system. Currently, we are in the process of drafting alternatives as a part of our Water Control Manual update. Since navigation is that authorized purpose, we will attempt in some level to support navigation within the limits of the available water and the ability for us to dredge the system. Currently, we don't have that ability to dredge, so currently the navigational support that we will provide will be during the nature's normal, what it provides for high flows.

As for the impacts on the navigational operations, that hasn't been determined because it is a part of the process. And I know you didn't want to hear that, Senator Nelson, but it is what we have to look at as a part of that impact.

Senator RUBIO. About the environmental impact statement that you are going to be conducting, are you required to take into account the impacts that any water management is going to have on the oyster fisheries in the bay?

Colonel CHYTKA. It hasn't been determined exactly what that analysis will bring. As the NEPA process, there are a number of stakeholders that put information in, and we have gotten a lot of comments in our scoping period from Franklin County, and we are considering that in that process. If any analysis is out there, the best science, we will be putting that into the NEPA process and the EIS.

Senator RUBIO. Do you know how much more water Georgia has requested? And when you consider that request, how do you account for the impact that any additional withdrawal is going to have on the entire water system?

Colonel CHYTKA. In January of 2013, Georgia did have a water supply request. That request included two things: a direct withdrawal from Lake Lanier for 297 million gallons per day and downstream withdrawals for the Chattahoochee River, located in the City of Atlanta, for 408 million gallons per day.

The way we are including that, we are using our modeling techniques. And as a part of the EIS process, we will determine and evaluate those impacts on the entire ACF.

Senator RUBIO. Well, as you work on the operation manual, do you plan to emphasize water conservation?

Colonel CHYTKA. Water conservation is a key principle for how we manage and operate the reservoir, the dam system, the Federal projects. So for us, yes. But we do not have the authorities to impose conservation on Florida, Alabama, or Georgia. It is not in our authorities.

Senator RUBIO. Well, my last question is, why does the process of drafting an environmental impact statement take so long? And are there any plans to expedite that?

Colonel CHYTKA. Different projects—NEPA, the Natural Environmental Protection Act, the environmental impact statement for that varies, the timeline varies based on the project, the purpose, and oftentimes takes many years.

In this specific case, the ACF's EIS has been delayed, and you all know better than me how much litigation has been going on.

But that was delayed for that litigation. And then on top of that, there were decisions—since we follow the law, there were decisions made in the interpretation of that law on how we needed to look at that law and interpret that law.

With that, we went back—so we started the process in 2008. We did a rescoping in 2009. We did another rescoping based on the Eleventh Circuit's interpretation of the laws in 2012. That gave the opportunity to the public and stakeholders to provide additional comments, of which we have a lot. We have 3,621 comments from over 900 entities, so we have a lot of comments. All of that went into our scoping report, which we published in March of 2013.

So that is the timeline. We are looking at doing a draft EIS. Summer of 2015, we will have that for the public review by that time, and we will collect the comments again. And then we will go out for our final—we are looking at doing our final EIS early 2016.

And with all of that—that is a lot of stuff, but the reason that we don't think we can expedite it is because of the technical complexities. And there are more complexities in technical. But that is the real reason we don't think we can expedite it.

Senator RUBIO. Thank you.

Senator NELSON. Colonel, anything that needs to be expedited can be expedited. And let's just—

[Applause.]

Senator NELSON. Hold the response.

You are at a disadvantage here because you are right here just 13 days on the job. You have Mr. Pete Taylor with you.

And I want you to know that I have talked to the generals not only at the Atlanta Corps office but also all the way up, the commanding general of the U.S. Army Corps of Engineers. And we got a good ruling at the Federal district court level, and then when it went up to the Court of Appeals, they seemingly reversed that. But what they did was send it back to the Corps to do this update of the water manual.

Now, it is clear what is happening. And we have had the testimony here. That chart is very clear. But there have also been the water management practices by Georgia as compared to Florida. We passed in 1972 the Water Management Districts Act in Florida, and ever since there has been regulation of consumption of water; 1972, in the state of Florida, the legislature passed that.

A lot of Georgia's consumption has not been regulated, and whether it is now, I simply don't know. And as you testified, the Corps under the law has to look to the regulation by the states of water consumption.

But when it becomes a matter of water flowing in a waterway that is basically being dammed up, then it is a different issue. And that is what you all can address administratively in this Water Control Manual that you are updating.

So, for example, in the update, do you take into consideration the lost income to the commercial fishermen as well as the lost income to the recreational industry?

Colonel CHYTKA. I will start, and I will let Pete add on to it.

In the process, we consider anything that people provide us during those periods—the draft EIS, the scoping—that is provided to us. We consider it, and we address it.

With that being said, when we operate the actual ACF system, there are congressional authorized purposes. And those are the things that we have to balance in a prudent way in order to make the system function as it was designed.

Pete, do you want to add?

Colonel TAYLOR. Sir, I would echo what Colonel Chytka said, that we will develop our operations based on the authorized purposes that we have for the project. Apalachicola Bay is not part of the Federal project and it is not one of our authorized purposes, so we won't develop an operation to accommodate the bay specifically. But, clearly, we recognize that releases from our projects flow into the bay and have an impact on the bay.

Senator NELSON. Do you consider lost income of anybody else along the river system?

Colonel TAYLOR. Sir, to the extent that our operations impact something, then we have to consider that in our environmental impact statement.

Senator NELSON. So the answer is "yes"?

Colonel TAYLOR. Sir, I can't give you a definite "yes" or "no." It depends on if our—

[Laughter.]

Colonel TAYLOR. If our operations create an impact, then we have to discuss it in our EIS.

Senator NELSON. Let me ask you this. In your updating of the manual, do you assess the freshwater flows that are needed to maintain a healthy fish and wildlife population down the river?

Colonel TAYLOR. Again, Senator, as a part of the ACF, fish and wildlife is a part of the authorized purpose. The way we work is we work in consult with Fish and Wildlife specifically on threatened, endangered species. And so we have flows that are required from us in order to meet those requirements.

Again, it is about following the law. And that is what we have to do to fulfill that statute.

Senator NELSON. So you would consider the Endangered Species Act?

Colonel TAYLOR. Yes, Senator.

Colonel CHYTKA. Senator, yes. Fish and wildlife is an authorized purpose for the ACF project. And we work to accomplish that through our coordination and consultation with the Fish and Wildlife Service, both through the requirements of the Endangered Species Act as well as the Fish and Wildlife Coordination Act.

Senator NELSON. Would oysters in Apalachicola be considered an endangered species?

Colonel CHYTKA. Sir, to my knowledge, they are not endangered species, as listed by the Fish and Wildlife Service.

Senator NELSON. How about some of the fish up the Apalachicola?

Colonel CHYTKA. Sir, currently we have operations from our lowest project on the system, the Jim Woodruff Dam, for the protection of threatened/endangered species and habitat. And there are three species of mussel and the gulf sturgeon that we specifically have to release the water to protect them.

Senator NELSON. And when you said the mussels, does that include the endangered species that I think of as a kind of snail in the Apalachicola?

Colonel CHYTKA. Yes, sir. Yes, Senator.

Senator NELSON. So give us an example, then, where you say that you have to consider that, then the fact that there is less freshwater flowing south, what do you do about that if this species is threatened?

Colonel CHYTKA. Sir, we have been through several rounds of consultation with the Fish and Wildlife Service to develop procedures to protect threatened/endangered species in our habitat. Those consultations have resulted in minimum flows that we have to meet on the Apalachicola River.

Those flows vary depending on the time of year and how much water is coming into the system and how rapidly the river rises and falls, et cetera. There are many times during the year, particularly during droughts, when we don't receive sufficient inflows, basin inflow to the system, to meet those requirements.

And so what happens is we call upon the system, we use our storage from the system to meet those minimum flows. So those flows are higher than what would have been there were it not for our releases.

Senator NELSON. Would those times of drought mandate that you start releasing water at Lake Lanier so that you have greater flows downstream?

Colonel CHYTKA. Sir, we operate the entire ACF system, all those projects, as a system.

Lake Lanier contains probably 60-plus percent of all the stores in the system. It is a large reservoir with a very small watershed that fills it. So when we do need to make releases, as I just described, yes, it would typically start at Lanier and then work its way through the system down to Jim Woodruff Dam, then the Apalachicola.

Senator NELSON. When you have the unanimous elected officials, both Federal and State, of two states that are requesting of you to update this Water Control Manual so that adequate flows are flowing south, what is it going to take for you all to get it done quickly and to take into consideration the need of water flowing south?

Colonel CHYTKA. Senator, as we are going through the Water Control Manual process, including the EIS, we really have to look at the law and what the purposes of the project were intended to do. And there are some locations that Peter has already mentioned that we have mandatory requirements for release.

With that being said, there are multiple benefits to release for multiple purposes. But the Corps of Engineers, we have to follow the law. And so we will, in consultation with our other agencies, during this EIS process, take a lot of different considerations and comments in effect as well as from our public and from our stakeholders.

But in that whole process—and then I will let Pete add to it—we are going to be following the law. So if there is no requirement for a flow based on the purpose of the project and if it is not within the boundaries of the ACF system, you know, we will be considering it, but we have to go back to what the law permits us.

Colonel TAYLOR. Senator, what I would add to Colonel Chytka's statement is that, he mentioned earlier how technically complex this is and how much input we received. We have received proposals from many different entities from throughout the basin on not only what they would like to see, how they would like us to operate.

And we have received proposals from Florida and from the Fish and Wildlife Service that I know our team is looking at that do include more flows than currently occur. And we are looking and considering those as part of this process.

Senator NELSON. Colonel, again, you are at a disadvantage because you are here.

[Laughter.]

Senator NELSON. As a matter of fact, what—and I am going to try to find out why they sent you. Why didn't they send the generals that I have been talking to?

[Applause.]

Senator NELSON. I don't want to put you on the hot seat, but I want you to take this message back: that this is the kind of stuff that we have been hearing for years as we have been trying to solve this problem.

And, please, if you all will not react on this, but I want the Corps of Engineers at the Mobile, Alabama, office level to understand how serious this matter is.

And you will hear the testimony in the third panel—and I am making the assumption that you all are going to stay to hear—

Colonel CHYTKA. Yes, sir.

Senator NELSON.—the third panel—that this is a dire situation which has been going on for years. And I mentioned that it has been going on since Governor Bob Graham was Governor, back in 1978 to 1986. And it still hasn't been resolved.

And then when you get it exacerbated, as you all have testified, as the Congressman has testified, in times of drought and they are sucking more water out of the water table that would be going into the Flint River that flows in and joins the Chattahoochee to make the Apalachicola, then it is turning it into really a difficult situation that has to be corrected.

And we thought we were on the way when we had the Federal district court decision. Then it goes up to the Court of Appeals in Atlanta, and that gets reversed and is basically kicked back to you.

Now, if it is going to get solved, you all are going to have to do it, or else we have to amend the law. But you understand what we have to deal with, with the ability of the Georgia delegation to filibuster.

Now, let me get to you, Ms. Menashes. You described the process. I talked to Secretary Pritzker this morning. Do you have any idea of a dollar figure on the disaster declaration?

Ms. MENASHES. I don't have that information. I do have estimates from the report that Florida submitted to us, where they talked about the estimates in the first—

Senator NELSON. And what is that?

Ms. MENASHES. I believe it was—well, it was a 44 percent revenue decline from the recent historical average. I know that the

revenue for the fishery over all 3 years is generally around \$7 million.

But as I mentioned before, the funding that would be appropriated for a disaster relief can go to those direct revenue impacts, but it is also authorized under the legislation to deal with some of the underlying causes and some wider impacts to the communities and other activities that the state may want to do to address the issue.

And so I don't have that information about the cost of other activities the state may want to do that they would be authorized to spend under the Magnuson-Stevens Act or the Interjurisdictional Fisheries Act.

Senator NELSON. Do you remember what the state request was in dollar figures?

Ms. MENASHES. I don't off the top of my head, I am sorry.

Senator NELSON. Do you, Mr. Steverson? Do you know?

Mr. STEVERSON. No, sir, I am sorry.

Senator NELSON. What is the eligibility for the use of funds? For example, an economic loss to a number of these fishermen, is that a permitted use?

Ms. MENASHES. Yes. In general, the Magnuson-Stevens Act talks about funding going to assessing economic and social effects, activities to restore and prevent the failure in the future, so addressing some of the underlying cause, and also assistance to fishermen and fishing communities.

So it is a very broad set of activities that could be funded. And we see variation among different disasters about how those funds are used and what the requester thinks is a priority for funding.

Senator NELSON. Would that include economic development of the area?

Ms. MENASHES. Yes, economic development has been funded. Community assessment, community impact activities have been funded in the past.

Senator NELSON. And it would certainly include re-establishing the oyster-harvesting areas?

Ms. MENASHES. Yes. We often see funding going to restoration activities and similar types of efforts.

Senator NELSON. Now, this declaration is not just limited to the Apalachicola Bay?

Ms. MENASHES. Correct. It is the west coast of Florida. The primary impacts that were documented in Florida's report are in Apalachicola Bay. That is where the majority of the oyster fishing occurs. But, no, the disaster extends to the west coast of Florida or in the Gulf.

Senator RUBIO. Yes, I guess the——

Senator NELSON. Senator Rubio?

Senator RUBIO.—only point I would make, and I don't think you would disagree, nor would you, Senator Nelson, is I think it is fantastic if we could find funding to help people who are suffering to, you know, overcome the short—and midterm burdens and what all that means, but ultimately they want to stay in this business. I mean, this is a business. They want to do this. It is what their families have done; it is what the community is grounded on.

And at the end of the day, unless we fix this water problem, this funding isn't going to solve that. I mean, the point I want to drive is, I don't want anybody to fall into the trap of believing that the money that we are going to gather here, if we are able to put it together, solves the problem. Because there is a nature in politics and in Washington to say, oh, we got some money for it, it is done, we can move on.

That is going to help people that are hurting to survive, but in order to maintain themselves and get ahead, ultimately this water issue has to be solved irrespective of what happens. I hope the money comes, and we are going to work hard to make that happen. But beyond that, what I want to make clear is it is not enough; we can't stop there.

And I think that is important. I just don't want a lot of celebration only on the relief side of it and the front end and then forgetting that we still have this major—the long-term issue remains the water flow issue. And this doesn't necessarily solve that.

Ms. MENASHES. Correct.

Senator NELSON. Ms. Menashes, does this include disaster relief for other fish populations that are fished in the area?

Ms. MENASHES. This determination is focused on the oyster fishery. That is what the state requested, and that was what we analyzed. Certainly, if there was additional information and the state wanted to broaden that request, we could look at whether some of those other fisheries would be included.

Senator NELSON. Mr. Steverson, do you have anything to add?

Mr. STEVERSON. Yes, sir, Mr. Chairman. We hear the Corps talk a lot about, "We want to operate the way the system is designed." And I guess my issue with that is it was designed either by our Creator or Mother Nature or spontaneous combustion, whatever you choose to believe, to deliver freshwater down to this gulf and this bay and create that vibrant ecosystem that lived there.

And we talk about, "Well, we want Georgia to do conservation, but the law doesn't allow us to enforce Georgia to do conservation." But I believe, and they can correct me if I am wrong, it is either a policy or a rule, when they mention basin inflows. We want to see the true basin inflow.

Right now, my understanding is the Corps measures the amount after they already take out the withdrawals from Georgia. So Georgia is getting its piece first before we even look at what we are releasing and sending on down. We want a calculation of true basin inflows to give us the amount that is actually hitting the system and send that down to us first.

Senator RUBIO. Just so I understand, so——

[Applause.]

Senator RUBIO.—the best way to describe it in layman terms to our colleagues is what we want is basically to take a count of the volume and then basically have a system of fairness that would apportion it across the states that use it. What we have now is Georgia gets the first cut and we basically get whatever is left over.

Mr. STEVERSON. Right. So the good Lord giveth, and Georgia and the Corps taketh away. And that gives the system——

[Laughter.]

[Applause.]

Mr. STEVERSON. We need that.

Senator NELSON. Senator Rubio, any further questions?

Senator RUBIO. No.

Senator NELSON. OK.

Colonel, we are not picking on you. And we want you to know we appreciate your service. And if you are like a lot of the other Colonels in the Army Corps, you not only have served stateside but you have probably served in Iraq and/or Afghanistan, as well. And we want you to know how much we appreciate that.

[Applause.]

Senator NELSON. Now, I want you and Mr. Taylor to take back the message. First of all, the two Senators here who have been working on this for a very long time, we continue to get the same kind of answer, and it doesn't solve the problem. We have a problem, and it is in desperate need of a solution.

If you say that the law absolutely prohibits you, then why didn't the court say that? The Corps sent it back to the local district court and said to the Corps of Engineers, "Update the Water Manual. You have flexibility."

And so we are going to insist, because you can't let this situation continue, we are going to insist that you do. Now, the easy way to do it is administratively as you all are updating the water manual.

So, again, all of you in public service, you are public servants we appreciate very much.

Senator Rubio, if you don't have any further questions, then I will dismiss you all and ask for the third panel to please come up.

Mr. Hartsfield, I owe you an apology. You were listed on the official agenda as "Ms. Shannon Hartsfield." Is your first name Shannon?

Mr. HARTSFIELD. Yes, sir.

Senator NELSON. Well, that is probably not the first time—

Mr. HARTSFIELD. No, sir.

Senator NELSON.—that that has been referred to.

All right, on panel three—and Senator Rubio will be right back—we have Mr. Dan Tonsmeire. He is Executive Director and Riverkeeper of the Apalachicola River. We have Mr. Shannon Hartsfield, President of Franklin County Seafood Workers. And then we have Dr. Karl Havens, Director of the Florida Sea Grant College Program. And he is a Professor, School of Forest Resources and Conservation, Institute of Food and Agricultural Services, IFAS, at the University of Florida.

We are glad to have you.

And who is the gentleman with you, Mr. Tonsmeire?

Mr. BANKS. I am with the Franklin County Seafood Workers Association. I am the Vice President, Ricky Banks.

Senator NELSON. And so you are assisting Mr. Hartsfield?

Mr. BANKS. I am assisting the Seafood Workers and Shannon.

Senator NELSON. OK.

Do we have him on the schedule?

STAFF. We do not, but Mr. Bank's testimony will be reflected in the hearing record.

Senator NELSON. OK.

Mr. BANKS. Thank you.

Senator NELSON. Would you introduce yourself?

Mr. BANKS. Ricky Banks, Vice President of the Franklin County Seafood Workers Association.

Senator NELSON. OK, we will show the agenda so amended.

So we will hear first from, in the order that I mentioned, Mr. Dan Tonsmeire.

All right, your written statement will be issued in the record, and if you will summarize your remarks in about 5 minutes so we can get into questions.

Mr. Tonsmeire?

STATEMENT OF DAN TONSMEIRE, EXECUTIVE DIRECTOR AND RIVERKEEPER, APALACHICOLA RIVERKEEPER

Mr. TONSMEIRE. Thank you, Senators.

Apalachicola Riverkeeper appreciates the opportunity to offer our views on the importance of Commerce enacting legislation to require the Corps of Engineers to manage the ACF system to ensure that Apalachicola River and Bay receive the freshwater flows needed to support healthy populations of fish and wildlife in a vibrant resource-based economy.

Apalachicola Bay is one of the most productive estuaries in the Northern Hemisphere. The river flows that nourish the bay also provide 35 percent of the freshwater flows to the eastern Gulf of Mexico and is a driver of the productivity of the fisheries over 250 miles out into the gulf.

Analysis of a 2011 NOAA report on the value of gulf fisheries found that commercial and recreational wild-caught fisheries create \$5.6 billion in sales revenues and support 55,000 jobs in west Florida. Because of these characteristics and high value, the bay has international, national, and state designations that are intended to highlight and protect its unique and special place in our nation and state.

The collapse that will be described by Dr. Havens last summer heralds the beginning of the end of this last great bay and national treasure. During the past 30 years, Florida has suffered a 30 to 40 percent decline in the spring and summer flows during dry and drought times.

At the most critical time of year for reproduction and productivity of the Apalachicola River floodplain and bay, the Corps' management and the needs of upstream users are taking a heavy toll on the volume and timing of flows to the Apalachicola.

Over the past 30 years of litigation and state negotiations, an entire generation of fishermen have seen their livelihoods dwindle to unsustainable levels at the same time upstream users have reaped the benefits of the waters of the ACF system.

During this 30 years, great efforts by Florida's congressional delegation attempted to restore Florida's right to our water, a right that has been lost when Congress gave the Corps of Engineers authority to manage the ACF system to benefit upstream states without consideration of Floridians.

As the Colonel stated, after three scoping opportunities for the current Water Control Manual EIS and repeated comments from stakeholders and congressional delegates, the Corps continues to state that the ongoing update will essentially validate the current

operating plan, which provides minimum flow target releases to the Apalachicola for endangered species.

Apalachicola Riverkeeper, the SMARRT group, National Wildlife Federation, Florida Wildlife Federation, and many others see only one way to change the Corps' dynamic: Congress must require in very specific terms that the Corps of Engineers manage the ACF projects to ensure that Florida receives the water it so desperately needs to sustain the river and bay.

The freshwater flows provision in S. 601, developed and filed by you, Senator Nelson, would provide clear direction and ensure that the best available science is used to determine the amount, timing, and duration of the needed flows. The freshwater flows provision was not adopted by the Senate committee, in part because it was not supported by committee member Senator Sessions of Alabama. Additional language was developed to help address his concerns by providing benefits to users on the Chattahoochee River and ensuring that the Corps does not impose an unfair burden on Alabama. That revised language is attached at the end of my testimony.

While Alabama offered no opposition to this revised language, they also were not willing to support it. Instead, Alabama opted to focus on legislation that would stop the Corps from giving favorable treatment to Georgia. Their proposed language would not change the status quo for Florida and would not require the Corps to send more water to Florida.

All three states have been driven by litigation for so long it appears to be impossible for them to think outside the litigation box. After 30 years of disagreement and failed attempts, it is clear to us that the states are not prepared to enter into and/or are not seriously considering entering into meaningful compact negotiations.

Working in the collaborative dimension offers opportunity for forward movement and resolution, but it is apparent that the playing field must be leveled by Congress to induce the states to negotiate in good faith and create the possibility that negotiations or compact discussions could be productive in achieving the equitable sharing of water.

The most important aspect of the freshwater flows language is it restored the rights of Floridians to water that their very survival depends on. Our future lies in Representative Southerland overcoming the politics and including the freshwater flows language in the House WRDA bill and in our entire Florida delegation working to ensure its passage into law.

Our community cannot wait for yet another WRDA, another Water Control Manual, or another lawsuit. We desperately need Congress to take this action now, not after our fisheries, economy, and way of life are destroyed, like the once-vital estuaries of the Chesapeake, the Delaware, San Francisco, and Florida bays, and so many others before us. Time is of the essence. Please, Senators, save this last great bay and its people.

[The prepared statement of Mr. Tonsmeire follows:]

PREPARED STATEMENT OF DAN TONSMEIRE, EXECUTIVE DIRECTOR AND RIVERKEEPER,
APALACHICOLA RIVERKEEPER

Chairman Rockefeller, Ranking Member Thune and members of the Committee, thank you for the opportunity to testify on Effects of Water Flows on Apalachicola

Bay: Short and Long Term Perspectives. I would also like to thank Senators Nelson and Rubio for holding this vitally important field hearing. Apalachicola Riverkeeper greatly appreciates the opportunity to offer our views on the importance of freshwater flows to the health of the Apalachicola River and Bay and the importance of Congress enacting legislation to require the U.S. Army Corps of Engineers (Corps) to manage the Apalachicola-Chattahoochee-Flint (ACF) river system to ensure that the river and bay receive the freshwater flows they need to support, restore, and reestablish a thriving ecosystem, healthy populations of fish and wildlife, and a vibrant resource-based economy.

Apalachicola Riverkeeper is a 501c3 non-profit organization founded in 1998. Our mission is to provide stewardship and advocacy for the protection of the Apalachicola River and Bay, its tributaries and watersheds, in order to improve and maintain its environmental integrity, and to preserve the natural, scenic, recreational, and commercial fishing character of these waterways. Thousands of people including oyster harvesters, seafood workers, shrimpers, crabbers, and other commercial fishers of the region and state depend upon the health of the Apalachicola River Floodplain and Bay and the Eastern Gulf of Mexico for their livelihoods.

Apalachicola Riverkeeper calls on Congress to act now to prevent the demise of the Apalachicola River and Bay and to prevent the loss of the incredibly important role that this system plays in maintaining a thriving Eastern Gulf of Mexico, regional seafood and tourism industries that are essential for our local, regional, and statewide economy. To do this we urge Congress to act now to require the Corps to manage the ACF projects to ensure that the river, floodplain, and bay receive the freshwater flows needed to sustain a healthy functioning natural system and fisheries that are key to a vibrant economy. The Water Resources Development Act currently being considered by Congress and Water Control Manual update by the Corps of Engineers offer a rare and critically important opportunity for enacting such language. We strongly urge you to ensure that the freshwater flows provision discussed in this testimony is included in any final Water Resources Development Act that becomes law.

Significance of Apalachicola Bay

Apalachicola Bay is one of the most productive estuaries in the Northern Hemisphere. Historically it has supported oysters, shrimp, crabs, grouper, snapper, redfish, and multitudes of baitfish escaping to the Gulf. It is home to one of the last of Florida's renowned commercial fishing communities which cannot be replicated. It is nourished by flows from the Apalachicola River and Floodplain, which have the highest documented biological diversity of any river system in North America. It provides 35 percent of the freshwater flow to the Eastern Gulf of Mexico and is one of the primary drivers of productivity of the fisheries in the Eastern Gulf. Dr. Felicia Coleman of the FSU Marine Lab has clearly drawn the linkages of fisheries productivity in the Eastern Gulf to flows from the ACF Basin in the context of a Green River flowing over 250 miles out into the Gulf from Apalachicola Bay. Her findings were based in part on the research contained in the report: Morey, S.L., Dukhovskoy, D.S., and M.A. Bourassa. "Connectivity of the Apalachicola River flow variability and the physical and bio-optical oceanic properties of the northern West Florida Shelf." *Continental Shelf Research* 29 (2009) 1264–1275. The point is driven home further in the attached letter from Representative Kathy Castor to the Gulf Coast Ecosystem Restoration Council.

The attached analysis of the 2011 NOAA report: (<http://www.st.nmfs.noaa.gov/Assets/economics/documents/feus/2011/FEUS%202011-Revised.pdf>) finds that the Commercial and Recreational "Wild Caught" Fisheries to West Florida create \$5.6 billion in sales revenues and support 55,000 jobs.

Because of these characteristics and high value, the Bay has international, national, and state designations that are intended to highlight and protect its unique and special place in our Nation and state. These designations include:

- United Nations UNESCO Man in the Biosphere Reserve
- National Estuarine Research Reserve
- Outstanding National and Florida Water
- State Aquatic Preserve
- Highest Priority Water on NFWFMD Surface Water Improvement and Management (SWIM) Program
- Class II Shellfish Harvesting Area

The collapse of the Bay last summer heralds the beginning of the end of this Last Great Bay and National Treasure. The scientific reports concluded that the primary cause of the problems is a result of lack of freshwater flows.

WRDA Language

Over the past 30 years as litigation and state negotiations have gone on and on, an entire generation of fishermen have seen their livelihoods dwindle to unsustainable levels. Their nets and tongs come up with less and less than the hauls pulled in by their fathers' families and grandfathers' families before them. At the same time, upstream users have reaped the benefits of the waters of ACF system. As the devastating impacts to the Floodplain and Bay have grown, so have our calls for help to stop the steady loss of freshwater flows to the largest and most abundant river and bay in Florida. Time is not on our side and the increasing loss of flows to our River and Bay must be reversed.

During development of the Water Resources Development Act (WRDA) of 2007, Senator Nelson and Congressman Alan Boyd attempted to address the lack of attention the Corps of Engineers paid to our River and Bay. I have 15 letters Senator Nelson and Representative Boyd sent regarding the ACF issue. During his first election campaign, now-President Obama said "Rather than continue to waste time and money on further litigation, it was time for national leadership on this issue so we resolve it fairly once and for all." Despite these efforts, the Corps has not changed its management to recognize the needs of our River and Bay.

WRDA 2007 did not include language that addressed Florida's needs. Shortly after passage of WRDA 2007, Apalachicola Riverkeeper, National Wildlife Federation, and Florida Wildlife Federation again reached out to Senator Nelson for help in restoring Florida's right to water, a right that had been lost when Congress gave the Corps of Engineers authority to manage the Apalachicola-Chattahoochee-Flint system to benefit upstream states at the expense of Floridians.

In response, Senator Nelson developed legislation that would require the Corps to operate the Apalachicola-Chattahoochee-Flint projects in a manner that ensures the maintenance of freshwater flows needed to support and reestablish thriving and resilient fisheries in the Apalachicola River and Bay, and to support and sustain a vibrant economy. The language would ensure that Floridians receive the water we need to sustain our economy, our way of life, and our natural resources. The Freshwater Flows legislation is strongly supported by the Apalachicola Riverkeeper, Seafood Management Assistance Resource and Recovery Team (SMARRT) (see attached letters), National Wildlife Federation, Florida Wildlife Federation, and many others.

Senator Nelson then introduced this Freshwater Flows language as an amendment in Committee to S.601, the Water Resources Development Act of 2013. A copy of this amendment is attached. Apalachicola Riverkeeper and many others in the conservation and fishing community are deeply grateful to Senator Nelson for developing and filing this critical amendment.

That amendment was carefully crafted to ensure that it does not constitute an earmark. As a technical matter, the Freshwater Flows language is not an earmark because it: (1) does not increase the budgetary impact of managing the ACF; (2) does not authorize funding for a new activity; (3) does not require the Corps to carry out an activity that it is not already required to do (*e.g.* undertake a new study, construct a new project, construct a new project element); and (4) is justifiable as a technical modification to an existing authorization. The Freshwater Flows language is also not an earmark because it reaches across state lines and will produce tremendous regional and national economic benefits, including those derived from a healthy fishery in the Gulf of Mexico. The Freshwater Flows provision will also save millions of dollars that would otherwise go to litigation and will initiate a collaborative process with stakeholder input to resolve these long standing water allocation issues.

Unfortunately, the Freshwater Flows provision was not adopted by the Senate Environment and Public Works Committee, in part because it was not supported by Committee member Senator Jeff Sessions (R-AL). Additional language has been developed that would help address concerns raised by Alabama, provide benefits to users in the middle and lower Chattahoochee River, and ensure that the Corps of Engineers does not impose an unfair burden on Alabama if the Freshwater Flows language is enacted into law. A copy of this revised language is attached at the end of these comments.

While Alabama offered no opposition to this revised language they also were not willing to support it. Instead Alabama has opted to focus on legislation that would amend the Water Supply Act in an effort to stop the Corps from giving favorable treatment to Georgia. That legislation would amend the Water Supply Act to require congressional approval before the Corps grants additional allocations to Georgia for water supply from Lake Allatoona and Lake Lanier. While the proposed changes to the Water Supply Act might provide some degree of protection to Alabama, the proposed changes do little, if anything, to help Florida. The proposed

changes would not change the status quo—which is starving Florida of the water it needs—and would not require the Corps to send more water to Florida.

Apalachicola Riverkeeper has also reached out to other key stakeholders including Alabama and Georgia Power Companies. Neither has officially responded but discussions indicated that they would not likely oppose the Freshwater Flows language because the Federal Energy Regulatory Commission (FERC) license they operate under does not provide them license to determine the equity of downstream user needs. Their concerns would address how the releases from Lake Lanier might be changed to impact the arrival of flows at their facility to meet peak power demands as the timing of flows is critical to their operations.

Impacts to Apalachicola River Floodplain and Bay

Dr. Robert Livingston (Livingston, R.L. 2008. “Importance of River Flow to the Apalachicola River-Bay System.”) and others have related the importance of Freshwater Flows to Apalachicola Bay. Greg Munson, the Deputy Director of Water Policy in Florida’s Department of Environmental Protection, recently testified to Congress about the vital importance of freshwater flows to the Apalachicola River and Bay:

“The River and Bay ecosystem, and thus, the men and women of this region, are entirely dependent on timely freshwater flows to remain healthy and productive. The Apalachicola River is the main source of freshwater inflow to the Bay. That freshwater inflow regulates salinity in the Bay in a way that maintains the biological integrity of sensitive oyster habitats. Equally important is the fact that the Apalachicola River discharges nutrient-rich water into the Bay, which provides the building blocks of the Bay’s food chain. In these ways, the River is the lifeblood of this extraordinarily productive estuarine system, which sustains oyster harvesting, shrimping, crabbing, and fishing. Therefore, the productivity of the Bay is strongly influenced by the amount, timing, and duration of the freshwater inflow from the Apalachicola River. It is important to restore historic flow patterns. Otherwise, the ecosystem and, indeed, the very way of life for generations of Floridians will be devastated.

Unfortunately, Florida cannot control the volume of water entering the State. Its destiny is subject to upstream influences that are working to undermine the foundation of the region. The amount of water flowing in the River and ultimately to Apalachicola Bay is a function of Georgia’s consumption on the Chattahoochee and Flint Rivers and Corps reservoir operations on the Chattahoochee. Since the 1970s, Georgia consumption has grown substantially on both systems and the Corps implemented its “Draft” Water Control Plan to prioritize municipal and industrial water supply operations elevating them above all other uses in 1989.

As a consequence, Apalachicola River flows have been lower and low flows have occurred more frequently and for longer durations than at any time in recorded history. The problem has been most acute in the last 10 years, and is creating long-lasting impacts to the River and Bay. In 2012, Florida experienced widespread damage to its oyster resource resulting from two years of prolonged low-flow conditions. Indeed, last year set a record for the least amount of water delivered to the Bay since records were started in 1923, although this was not the year with the least rainfall. The corresponding reduction in freshwater inflow elevated salinity levels in the Bay well beyond tolerable thresholds, and the continued lack of inflow precluded any opportunity to mitigate salinity levels. It is well documented that elevated salinity leads to increased incidence of oyster mortality through disease and predation.

State agencies and local fisherman have documented a severe decline in the oyster harvests. Drastic declines in all age classifications of oysters suggest that a collapse of the fishery has occurred. In the latest state agency reports, the oyster production estimates on commercially important oyster reefs are the lowest estimates in the past 20 years. The data suggests that many of the stocks are not sufficiently abundant to support commercial harvesting, devastating the livelihoods of the men and women who make their living directly harvesting oysters or processing oysters on Florida’s Gulf Coast.

It is clear that the Apalachicola River needs more flow to help recover from the devastating oyster mortality in the Bay that occurred in 2012, as well as the previous massive die-offs of endangered mussels, decline in fisheries, and drying of the floodplain forest that has occurred in recent years.”

(July 22, 2013 Testimony of Greg Munson, Deputy Secretary of Florida Department of Environmental Protection on “Oversight of Army Corps of Engineers Water Management in the Apalachicola-Chattahoochee-Flint River (ACF) and the Ala-

bama-Coosa-Tallapoosa (ACT) River Systems” before the United States Senate Committee on Environment and Public Works.)

During the past 30 years Florida has suffered from a 30 to 40 percent decline in Spring and Summer flows during dry and drought times. At the most critical time of year for reproduction and productivity of the Apalachicola River Floodplain and Bay, the Corps’ management and needs of upstream users are taking an especially heavy toll on the volume and timing of flows to the Apalachicola. While some of that change is due to changes in rainfall patterns, management of flows by the Corps of Engineers is a critical factor as demonstrated by a comparison of the comparable mid 1950s drought flows with those of 2007 and 2012. (See attached Palmer Drought Severity Index figures for Drought comparisons). Flows during the most recent drought were over 30 percent less than the severe drought of 1950s and only 1/3 that of the average flow for the entire period of record. See flows based on USGS records below.

1922–2012 Annual Average Flow	21,400 CFS
1955 Annual Average Flow	11,200 CFS
2007 Annual Average Flow	9,700 CFS
2012 Annual Average Flow	7,600 CFS

Corps Operations and Management

Except for providing a 5,000 CFS minimum flow level, the Corps now holds reservoir levels high without consideration of the needs of Apalachicola River Floodplain and Bay. The Corps’ interpretation of its Congressional authorization for managing the ACF and its resistance to even assessing the needs of Florida have contributed significantly to the Corps’ refusal to provide Florida with the water it needs.

Indeed, even after three Scoping opportunities for the current Water Control Manual EIS—where many comments urged the Corps to fundamentally reevaluate its operations to account for the needs of the Apalachicola River and Bay—the Corps of Engineers continues to state that the ongoing update will essentially validate the current operating plan. That plan, the Revised Interim Operations Plan, does not include any consideration of flows needed to sustain the Apalachicola River Floodplain and Bay. The plan’s sole objective for maintaining fish and wildlife populations is tied to the minimal flows needed to satisfy the Federal Endangered Species Act. The plan does this by establishing minimal flow target releases to the Apalachicola from Jim Woodruff Dam needed to keep the three federally listed mussels and the federally listed Gulf sturgeon alive.

Some of the Corps’ top leaders, including General Schroedel, Major General Semonite, and Colonels Keyser, Jorns and Roemhildt have expressed concerns about the management of the ACF projects and the need to consider Apalachicola needs. At a 2009 meeting of the National Academy of Sciences, General Schroedel stated that the ACF Basin was already over-allocated and that there was not enough water in the ACF Basin to meet all demands. Despite their individual recognitions of the problems we face on the Apalachicola, Florida’s needs remain unaddressed.

Apalachicola Riverkeeper, SMARRT, and many in the conservation community see only one way to change this dynamic: Congress must require—in very specific terms—that the Corps of Engineers manage the ACF projects to ensure that Florida receives the water it so desperately needs. The Freshwater Flows provision developed by Senator Nelson would provide this clear direction and ensure that the best available science is used to determine the amount, timing, and duration of the needed flows.

States’ Rights and Approaches

All three states have been driven by litigation for so long it appears to be impossible for them to think outside the “litigation box”. During the recent Senate Committee Hearing on ACF that Senator Sessions held, the “ifs and buts” given by the 3 states made clear that an interstate water compact will not be reached in time to save the Apalachicola Bay and the jobs that depend on it. After 30 years of disagreement, and the failed attempts of the late 1990s and early 2000s, it is clear to us that the states are not prepared to enter into—and are not seriously considering entering into—meaningful compact negotiations. Even if the states were so inclined, each state uses different data, different models, and their technical advisors provide their policy makers with different answers as to what impacts will result from different management practices and flow regimes. There is no wonder they cannot reach an agreement on sharing water.

Working in a collaborative dimension offers opportunity for forward movement and resolution, but it is apparent that the playing field must be leveled by Congress to induce the States to negotiate in good faith. With this legislation, that level play-

ing field will be created and the possibility that negotiations or compact discussions could be productive in achieving equitable sharing of water.

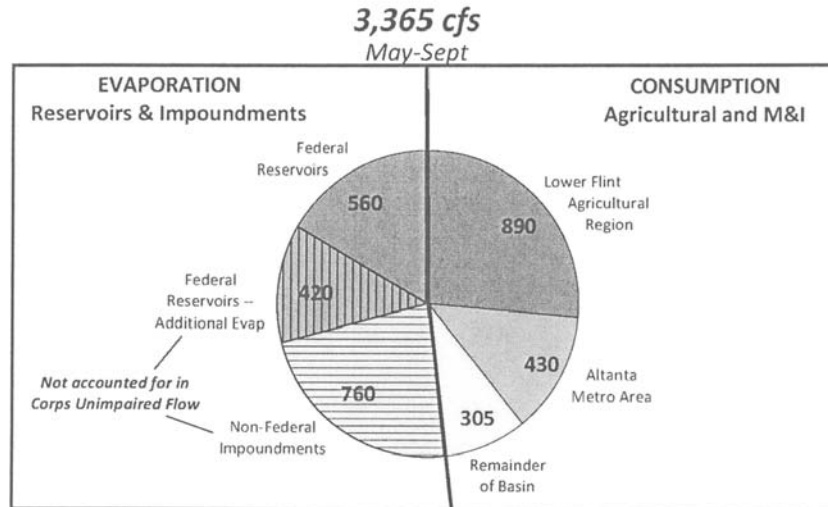
Georgia has long claimed that it is not the cause of the low flow problems facing Apalachicola River and Bay. During the recent drought Georgia's Governor Deal declined to institute more aggressive water conservation measures, telling Florida's Governor Scott that Georgia had a mandate from the Courts to meet his water needs. Furthermore, increases in consumptive water use for agricultural irrigation have been significantly increased in recent years despite drawdown of the Floridian aquifer.

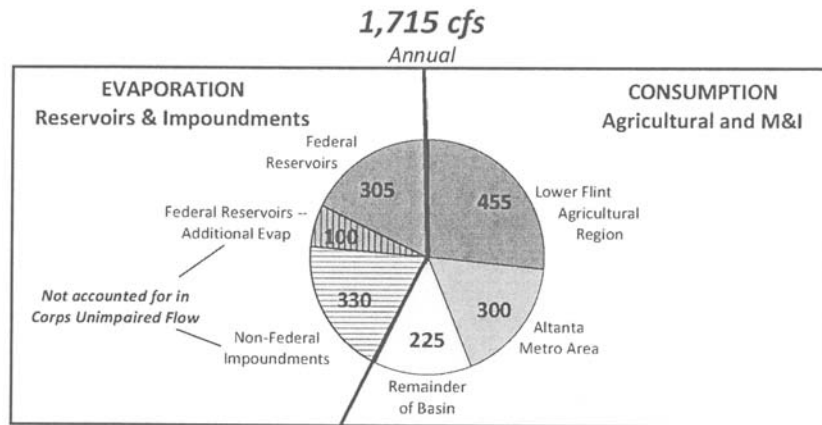
While we strongly dispute Georgia's position and believe that stronger conservation measures in Georgia would benefit all three states, it is clear that the allocations for water supply from Lake Lanier are just one part of the problem facing Florida. There are many other activities that are driving the low flows reaching the Apalachicola River Floodplain and Bay. For example, on a hot summer day the net evaporation from the 5 Federal Reservoirs in the ACF system exceeds the water use by Atlanta and agricultural irrigation is as much as 2–3 times municipal and industrial use.

The diagram below, prepared by the State of Florida using data being used by the Corps of Engineers, shows the impact on river flows from all uses in the ACF basin. As this diagram makes clear, addressing water supply allocations from Lake Lanier is just one part of the solution. We need a management perspective that will consider operations of all reservoirs, and water uses in the ACF basin.

Figure 1. 2007 Depletions

Net 2007 depletions, in cfs, upstream of Woodruff Dam. Cross-hatched depletions (not accounted for in Corps Unimpaired Flow) were visually estimated from preliminary data in Figs 3.19.7 and B.2 in Draft UIF Report by GWRI/GT (2012). All other numbers are from Corps ProAction2 model, May 2012. Depletions may be higher than shown because of underestimated agricultural withdrawals in dry years and other uncertainties in Corps model (GWRI/GT, 2012), and large increases in impervious surfaces and other land use changes.





As discussed above, Alabama is currently focused on legislative language that will not address this full suite of activities, and will not address Florida's needs.

For years, Florida's focus has been on litigation surrounding water supply withdrawals from Lake Lanier which likewise will not address the full suite of activities affecting low flow levels in the Apalachicola River and Bay. The litigation has cost millions of dollars of Florida funds and appears to have prevented the state from taking additional steps forward in resolving the water crisis that is devastating Apalachicola River Floodplain and Bay. Even while we know the Georgia agricultural use is having impacts, our own Northwest Florida Water Management District continues to issue agricultural irrigation well permits in the Apalachicola Basin, albeit small compared to Georgia's use.

While our Governor has made significant gestures to help the community and focus attention on the Bay's collapse, stakeholders have not been included in strategy decisions and our recommendations and advice have not been heeded. The six counties along the Apalachicola portion of the basin have formed the Riparian County Stakeholder Coalition to work together to help resolve the issue with our upstream neighbors to undertake a River and Bay Assessment to better understand the needs of the Floodplain and Bay.

Conclusion

The most important aspect of the Freshwater Flows language is that it restores the rights of Floridians to water that their very survival depends on, not just water from Lake Lanier, but from all portions of the basin from the top to the bottom.

It is our understanding that current draft language in the House version of WRDA does not include the Freshwater Flows language. Without this language our citizens will be off work as you now see them here today, not to attend a Hearing, but due to a lack of jobs and business, due to a lack of fresh seafood, and the permanent loss of our position as seafood port renowned as a distributor of the best oysters and seafood worldwide.

Our future lies in Representative Southerland overcoming the politics and including the Freshwater Flows language in the House WRDA bill; and in our entire Florida delegation working to ensure its passage into law. Our community cannot wait for yet another WRDA, another Water Control Manual, or another lawsuit. We desperately need Congress to take this action *now*, not after our fisheries, economy and way of life that are destroyed like the Chesapeake, Delaware, San Francisco, Florida Bays and so many others before us. Time is of the Essence.

SEC. ____ APALACHICOLA, CHATTAHOOCHEE, AND FLINT RIVER PROJECTS.

(a) DEFINITIONS.—In this section:

(1) APALACHICOLA-CHATTAHOOCHEE-FLINT PROJECTS.—The term “Apalachicola-Chattahoochee-Flint projects” means the Federal water resources projects on the Apalachicola, Chattahoochee, and Flint Rivers in the States of Alabama, Florida, and Georgia authorized by section 2 of the Act of March 2, 1945 (59 Stat. 17, chapter 19; 60 Stat. 635, chapter 595) and section 203 of the Flood Control Act of 1962 (76 Stat. 1182), including—

- (A) Buford Dam and Reservoir;
- (B) West Point Dam and Reservoir;
- (C) George W. Andrews Dam and Reservoir;
- (D) Walter F. George Dam and Reservoir; and
- (E) Jim Woodruff Dam and Reservoir.

(2) FRESHWATER FLOWS.—The term “freshwater flows” means the quality, quantity, timing, and variability of freshwater flows required—

(A) to support and reestablish—

(i) the physical, chemical, biological, and overall ecological integrity of the components, functions, and natural processes required for a thriving and resilient Chattahoochee River, Apalachicola River, Apalachicola River floodplain, and Apalachicola Bay;

(ii) commercial and recreational fisheries dependent on freshwater flows into Apalachicola Bay and adjacent waters, including the Gulf of Mexico; and

(iii) thriving and diverse fish, wildlife, and plant populations having species composition, diversity, adaptability, and functional organization similar to those found in the Chattahoochee and Apalachicola River ecosystems prior to construction of the Apalachicola-Chattahoochee-Flint projects;

(B) to restore and recover species that are endangered, threatened, or at risk; and

(C) to prevent significantly harmful adverse impacts to the Chattahoochee and Apalachicola River ecosystems.

(b) PROJECT MODIFICATION.—Notwithstanding any authorized purpose of the Apalachicola-Chattahoochee-Flint projects, the Secretary shall operate the Apalachicola-Chattahoochee-Flint projects in a manner that ensures the maintenance of freshwater flows. Operational modifications needed to maintain freshwater flows shall be achieved, to the maximum extent practicable, while providing system-wide balance in conservation storage through the maintenance of water levels within the same action zone for each of the Apalachicola-Chattahoochee Flint project reservoirs.

(c) REVISION OF WATER CONTROL MANUALS.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Secretary shall complete the ongoing revision of the water control manuals for the Apalachicola-Chattahoochee-Flint projects and issue revised water control manuals for those projects that ensure the maintenance of freshwater flows.

(2) INDEPENDENT PEER REVIEW OF WATER CONTROL MANUALS.—

(A) IN GENERAL.—The Secretary shall enter into an arrangement with the National Academy of Sciences under which the National Academy of Sciences shall carry out an independent peer review of each revised water control manual, as required under section 2034 of the Water Resources Development Act of 2007 (33 U.S.C. 2343).

(B) COMPLIANCE.—Each independent peer review under this paragraph shall comply with section 2034 of the Water Resources Development Act of 2007 (33 U.S.C. 2343).

(3) FINAL APPROVAL.—Before a final water control manual may be issued, the Secretary shall obtain written approval of each water control manual developed under this subsection from—

- (A) the Administrator of the Environmental Protection Agency;
- (B) the Director of the United States Fish and Wildlife Service;
- (C) the Director of the National Oceanic and Atmospheric Administration; and
- (D) the Director of the United States Geological Survey.

(d) APPLICABILITY OF OTHER FEDERAL AND STATE LAWS.—Except as provided in subsection (b), nothing in this section waives, limits, or otherwise affects the applicability of any provision of Federal or State law that would otherwise apply to the Apalachicola-Chattahoochee-Flint projects

Senator NELSON. Thank you, Mr. Tonsmeire.
[Applause.]
Senator NELSON. Mr. Hartsfield?

**STATEMENT OF SHANNON HARTSFIELD, PRESIDENT,
FRANKLIN COUNTY SEAFOOD WORKERS ASSOCIATION,
AND FOUNDING MEMBER, SMARRT**

Mr. HARTSFIELD. We have always faced hurricanes, tropical storms, too much freshwater, always too much freshwater. We have never faced lack of freshwater. Since 2000, we have dwindled down, and our bay has suffered greatly.

We have jumped on every bandwagon there is to try to get some kind of hope of freshwater. And after hearing everything I have heard and going to all these meetings I go to, I just don't see any hope in the near future. We don't have a near future in the seafood industry. We are facing this today. We don't have 6 more months, another year to go. We do not have that. This is not going to sustain itself.

And we need to find a way to get traffic back up that river where the Corps has to recognize it and give us back freshwater. There is no other way around it without getting that traffic, commercial traffic, back up to that river. We need to open that river back up and get us some flow down here. That is the only way. There are opportunities coming. We see it coming. We just got to figure out how to support it and get it on through.

And this is the first time ever out of all this disaster that Franklin County has experienced, and the commercial industry, that we have had any recognition, and we appreciate it greatly. And that said, this is the first time ever that we had any help coming in, that we have ever seen it. And it is a learning process, and it is appreciated greatly.

But with that said, we still have to have something to sustain. There is a lot of stuff being put forth that is out there that needs support. I know you all know the DEO is the next one. This last grant we have had, this grant we got from the disaster, was greatly needed, but that is just a drop in the hat compared of restoring this bay and keeping this small town survive.

You know, I mean, there are guys that try not to use the help, because we have never had it before, never, ever. And they see that they got to have it to stay here and survive. Without it, it is disastrous.

[The prepared statement of Mr. Hartsfield follows:]

PREPARED STATEMENT OF SHANNON HARTSFIELD, PRESIDENT, FRANKLIN COUNTY
SEAFOOD WORKERS ASSOCIATION, AND FOUNDING MEMBER, SMARRT

"The legal history of the water flows into Apalachicola Bay"

As a commercial fisherman who has over 30 years of experience on Apalachicola Bay and the Gulf region, I have worked in every sector of the industry except for the recent clamming aquaculture leases in Alligator Harbor. In 2011 I started to rebuild the Franklin County Seafood Workers Association as the newly elected President. With that I became the representative for the organization on the Apalachicola Chattahoochee Flint Stakeholders, where I learned how the Corp of Engineers allocates how much water is released below the Jim Woodruff Dam. In 2000, we began to notice the impacts of lower flows. Since then in 2007, we felt the first significant effects of the lack of freshwater and the abundance of predators in the bay. Prior

to the last drought, the Corp reduced the freshwater flows resulting in the collapse of the oyster industry in Apalachicola Bay.

“The impacts these flows have had on the surrounding community and ecosystems”

The impact on the community from the failure of the seafood industry is the economic loss caused by the loss of income from seafood harvesters which has a ripple effect throughout the community. The lack of available jobs in our county leaves no safety net for those who once made their living solely on the bay. The impact of the \$1.4 million dollars pumped into the economy from the NEG shelling grant created new as well as sustained many existing jobs. With 1,800 saltwater product licenses in a county with 11,000 people it is not hard to do the math. Sixteen percent of our population has directly felt the negative financial impact of the fisheries failure. Add to that our dealers, our restaurants, grocery stores, and others that have experienced reduced sales due to the lack of income of those who rely on the bay for a living and you can see the problem probably impacts one third of our community members. Reduction of water flows has magnified the lack of product from Apalachicola Bay, reducing personal income and eliminating re-investment in the industry. Currently, people have had to leave their homes to find work, they have had to accept outside help to survive and many have had to find any way they can to make a living.

The ecosystem has suffered because the bay has a higher salinity rate, which increases the devastation caused by predators. Also with higher salinity, oyster growth is stunted. The natural flow of the river, with the proper fluctuation brings the nutrients that are needed for the bay to function. The reduced flows have kept the nutrients from reaching the bay where they are needed. We understand that this reduction in flow of the river has also affected the tupelo forest in Wewahitchka, greatly depressing the honey industry there.

“Thoughts on the State and Federal efforts to address the impacts of those flows”

I do not see any results from the political or legal processes that we have experienced. I would ask leaders to compromise on the wording required to get legislation passed and support minimum flows that will allow the bay to survive. In the process I think we are actually receiving less water over the last 13 years.

As a response to the oyster crisis that began in September, we are pleased with the support that the Gulf Coast Workforce Board has given with the state and Federal funding. The seafood industry appreciates the grants that have funded bay restoration (putting shell back in the bay to provide the foundation for new spat) and the employment of the displaced seafood workers.

“Any short-and long-term solutions local, state and Federal lawmakers should consider to balance water management priorities appropriately”

Support the efforts of the ACF Stakeholders as they work to find solutions to the equitable sharing of water resources in the basin.

Pass legislation which fairly distributes water along the ACF system.

It seems that our government gives a lot of support to our farmers and those who provide food for Americans. We would like to have that same level of support for our seafood harvesting industry. We know that American seafood is far safer to eat than those being imported from other countries. We hope that you will protect it.

Prepared on this day, 9th day of August, 2013 as my sworn testimony and respectfully submitted,

SHANNON HARTSFIELD,
President,

Franklin County Seafood Workers Association,
Founding Member,
SMARRT.

Also, I represent the seafood industry on ACF Stakeholders

Mr. HARTSFIELD. And if I could take this opportunity, because Ricky is a good—he is a real good guy, been here all of his life. I am fourth generation; he is fourth generation. I want to give this opportunity for him to have my last few minutes, if it is all right with you.

Senator NELSON. Certainly.

Mr. Banks?

**STATEMENT OF RICKY BANKS, VICE PRESIDENT, FRANKLIN
COUNTY SEAFOOD WORKERS ASSOCIATION**

Mr. BANKS. I would just like to start out by saying my grandfather was an oysterman, my great-grandfather was an oysterman, my dad was, I am, and my sons have done it with me.

What we have here is a system that is being run by man that was created by God. At one time, there wasn't anything wrong with it. But when man steps in, he has a way of messing things up, as we can all see.

Well, we, the seafood workers, have worked together with our local county commissioners, our fish and wildlife, our Division of Aquaculture to keep our estuary pristine and nice, not only thriving but also beautiful, only to see that it is being destroyed by a lack of flow.

We have done our part down here. We can't do anything else. Somebody has to step up and do something for us. We are used to doing it on our own, but we have come to something we have no control over.

What people need to realize, Atlanta you just said has how much in Lake Lanier? They hold 60 percent of the water. Well, I would almost bet you there are kids being born in Atlanta today. How much are they going to need tomorrow? When is it enough? I mean, when is Atlanta going to—I mean, they are going to keep having babies, they are going to keep needing more and more water.

But we need our share, you know. You have an ecosystem that thrives on it. It is the vein, it is like an artery to this bay. And when you cut the flow off, it dies. And if it dies, you have a community here that this is all we know.

I, right now, I am doing another job. I went in this morning and told them I am leaving. You know why? Because it is not what I love. I love this area, and my family is raised up on it.

And this bay is going to come back someday. We are not giving up. We thank you for your help, but this Army Corps of Engineers got to come up with something.

[Applause.]

Mr. BANKS. They are in control. They can sit here and skate around the questions all day long, but they are in control of the situation. And they can go back to their office today and draw up something to say, hey, we are going to give it to them, you know?

Let Atlanta stop watering their grass a little bit. Don't give their dog a five-gallon bucket of water that he going to set there and let mosquitoes nest in; give him a little bowl, you know. Let them conserve a little bit and let us have our fair share instead of what they don't want.

You know when we are going to get our water? When it is running down their streets and they don't want no more, they will open that dam up and kill our bay again.

Thank you, sir.

[Applause.]

Senator NELSON. Thank you, Mr. Banks.

Colonel and Mr. Taylor, I think you all understand now, and we appreciate you being here so that you can understand the passion and the historical livelihoods that have come off of this bay.

And, Ms. Menashes, we want you to know how much we appreciate the Secretary of Commerce issuing the disaster declaration. But as it has been stated here very eloquently by these two, that is just a drop in the bucket, that what we have to do is get down the road and solve the problem.

OK, Dr. Havens.

Mr. HAVENS. Yes, sir.

Senator NELSON. Tell us from IFAS's standpoint, what do you think?

STATEMENT OF KARL E. HAVENS, DIRECTOR, FLORIDA SEA GRANT COLLEGE PROGRAM, PROFESSOR, SCHOOL OF FOREST RESOURCES AND CONSERVATION, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

Mr. HAVENS. Senators Nelson and Rubio, thank you for giving me the opportunity to talk today about the river flow and about the ecosystem health in Apalachicola Bay and especially what happened during the last 2 years.

The Apalachicola is a huge river. This is a bigger river, historically, than the Colorado River out west. That is how big this river is. It used to be the 13th largest flowing rivers in the United States.

Now, there have been periods of low flow during droughts, but there has never been a period as low as in the last 2 years. As one of the earlier speakers mentioned, they have been keeping records for 89 years of river flow, and the river fell below that historical record, so it was unprecedented.

And what happens in the bay when the river flows, then it is really important, because that freshwater dilutes the salt that is in the bay and it creates an environment called an estuary, which is very good for growth of things like oysters.

Oysters thrive in an intermediate salinity that occurs in an estuary. They grow on bars, and they grow very healthy. But other things like crabs and conchs and sponges and oyster drills that feed on oysters, they don't like that intermediate salinity, so they have to stay out in the Gulf of Mexico, and everything is good.

Now, when you reduce the river flow, you change things a lot. The bay suddenly becomes favorable to all of those parasites and predators and things that like to feed on oysters. They move in from the Gulf of Mexico, and the oysters are harmed.

At the University of Florida, we studied the response to low river flows that happened during the last 2 years in a project that started in September in cooperation with Florida state agencies and the Seafood Workers Association. We looked at all of the existing data, and there were reams of data that have been collected over the years by the agencies, and they worked very hard with us to put that information together to tell a story.

And we also went out and collected our own data, again, in cooperation with the Seafood Workers Association. We didn't hire technicians; we had these folks take us out because they know the bay way better than any of us do and helped us do our sampling.

When the river flow is low, salinity increased to a level in those years that was just like out in the Gulf of Mexico, and predators and parasites were very abundant in the samples that we collected. We found that the oysters were heavily infested with boring clams, sponges, and worms, and we also have found that there was a high rate of internal parasites in the oysters compared to normal. Basically, what had been a place for oysters to thrive became a place for oysters to die.

The data we examined indicated a very sudden collapse in the oyster population. It didn't happen gradually; it happened very quickly, and it happened in August 2012.

We have a population dynamics model of oysters that we developed at the University of Florida to try to figure out what caused the collapse. And our data shows very clearly that it wasn't caused by over-harvesting and it wasn't caused by contamination by the oil spill or dispersant. It was either disease or it was an onset of a high density of predators or some other natural factor where the population just basically collapsed after it couldn't take it after 2 years of such high salinity.

So what do we do, looking into the future? And there are a couple things.

You know, one is that we need to have good monitoring of the population in the bay. It is especially important right now to know what is going on out there so that we don't have a situation develop of over-harvesting. That didn't happen when they were healthy, but there are not a lot of oysters left out there right now. We need to let them recover.

Second, we know that the bay needs a restoration project. Of all the things right now that you could do for the bay now that the river is flowing again, there is a need for an increased amount of substrate for oysters to grow on. We have been working with these folks on that. On the order of about 1,000 acres of reef habitat needs to be restored.

We have done modeling on this, and what we have found is that if nothing is done, even with normal river flows, it could take up to 10 years for the oyster populations to recover. But we could cut that down to 2 to 3 years by doing a large restoration project.

So this river-flow thing is interesting, and one of the things that has been discussed is how to operate structures. Another is getting a handle on where people are taking water. And I think a very important tool that needs to be put into place is to have a basin model, like they do in south Florida, where you can determine how much water is being taken by the various users. And you can run scenarios, and you can look at what would happen if you cut off the use to a certain level by different users, and then find out what is practical to do. If there are things that people can do that are practical and reasonable, people could get together and find the solution, I think, to the problem.

And in terms of the bay, let me just provide some final comments. We do need long-term monitoring of the oyster population in the bay. There has been really good monitoring by the state that needs to continue. And we need to get a handle on how fishing pressure, river flow, and the reef habitat structure interact with each other. Because those three things put together determine how

healthy these oysters are. And going into the future, to have it be sustainable, we need that better understanding of that.

Thank you very much.

[The prepared statement of Mr. Havens follows:]

PREPARED STATEMENT OF KARL E. HAVENS, DIRECTOR, FLORIDA SEA GRANT COLLEGE PROGRAM AND PROFESSOR, SCHOOL OF FOREST RESOURCES AND CONSERVATION, UNIVERSITY OF FLORIDA INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

Senators Rubio and Nelson, thank you for the opportunity to provide information about water flow in the Apalachicola River and health of the Apalachicola Bay ecosystem.

Let me first discuss the history of water flows into the bay.

At one time, the Apalachicola was one of the largest rivers in the United States, with flows greater than the Colorado River. In the river's history there have been periods of low flow, coinciding with regional droughts. Sometimes these events have lasted for a year or two. Most recently, in 2011 and 2012, the river basin was the driest place in the United States. The low rainfall coincided with river flows dropping to the lowest levels ever recorded in the 89 years of record keeping by the U.S. Geological Survey.

Now I will discuss impacts the recent low river flow on the bay.

When river water enters into the bay, it dilutes the salt content to a lower level than occurs in the open waters of the Gulf of Mexico. Oysters in the bay thrive, and grow in large colonies called "bars." Certain other animals, including crabs, conchs, clams, worms and sponges—which eat or damage oysters—are kept at lower levels when there is good river flow. When river flow is greatly reduced, conditions in the bay become favorable to these things that eat and parasitize oysters, and oysters are harmed.

We studied the response to low river flow in a research project undertaken by my colleagues at the University of Florida, working with scientists from several Florida agencies and the Seafood Workers Association. We looked at existing data and did considerable new sampling of oysters, other animals, and water quality in the bay.

When the river flows were low, salinities increased to levels similar to those found in the Gulf, and both predators and parasites of oysters were abundant. Oysters were heavily infested with boring clams, sponges and worms and they had a high level of internal parasites. What previously had been a place for oysters to thrive became a place for them to die.

The data we examined indicated a sudden crash in the oyster population in August 2012. A University of Florida oyster model indicated that the crash was due to high mortality of juvenile oysters. Our data analysis and modeling provided no evidence that over-harvesting was a cause of the decline, and we found no evidence of contamination by oil or dispersant. We don't know the proximal cause of the sudden decline in oysters, but it is reasonable to link it to a disease, predators or some other factor related to the long period of low river inflow and high salinity.

How might we help oysters be more resilient to future low flow events?

First, it is critical that long-term oyster population monitoring be done in a manner that provides guidance regarding the amount of oysters that can be harvested in any given year. This is especially important right now, when the population is greatly reduced and at greater risk of over-harvesting.

Second, there is a need to restore degraded oyster reefs in the bay. If nothing is done, our University of Florida oyster model indicates that it could take over 10 years for recovery—yet with 1,000 acres of reef restoration, recovery time could be as short as 3 years, assuming that fishing pressure is controlled so that those restored reefs can develop robust oyster populations.

What is a logical path towards solving the river flow problem?

In my opinion, the first step must be getting a clear understanding about how human uses of water contribute to the low river flow. There is great need for a hydrologic model of the basin that includes rainfall, evaporation, reservoir operations and all of the consumptive uses of water by people. One of the first things that I would do is run that model to compare two scenarios—the last two years *with and without* human withdrawals of water. If there is little difference, there may be little opportunity to "fix" the problem. On the other hand, if the difference in river flow is 10 or 20 percent (or more), there could be a solution, and the next step would

be to find where the water is being used and what kinds of conservation measures are practical.

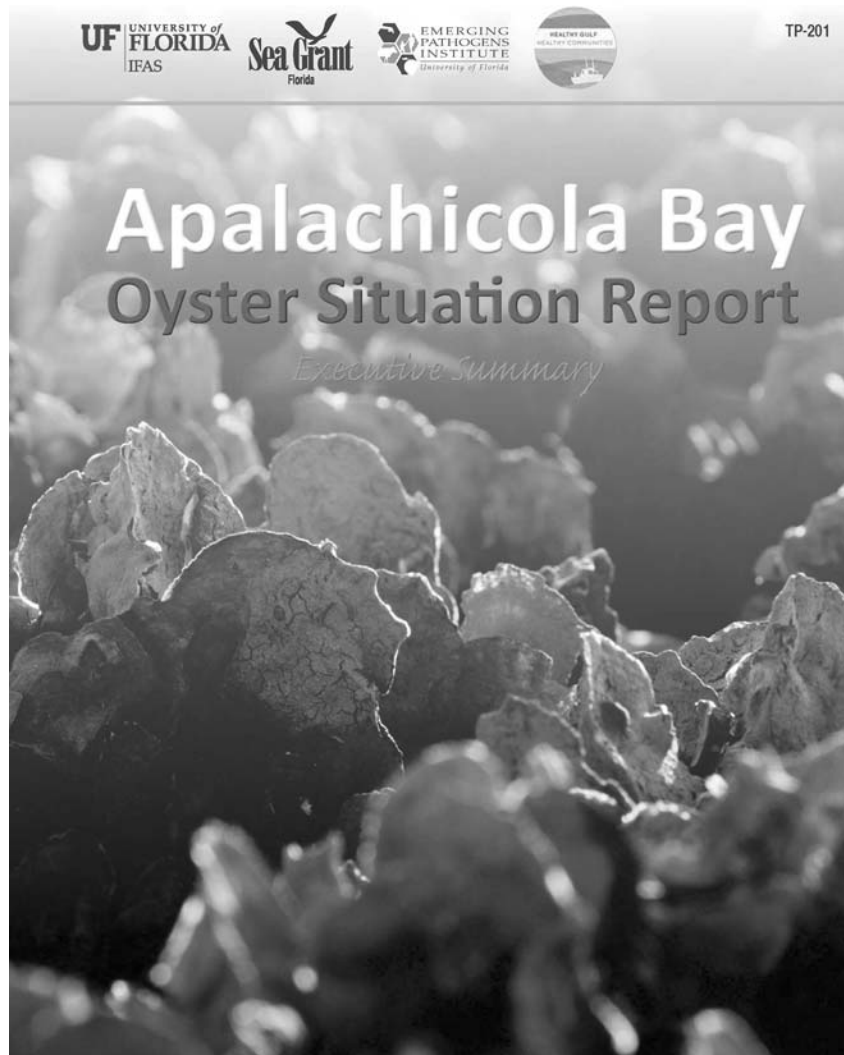
Finally, let me provide some comments on research and monitoring.

There is a critical need for good long-term monitoring of oyster population size, health and levels of predators and parasites—so if a drought happens again, we can more effectively identify the cause of an oyster response.

There also is a need for research to guide how restoration projects are done in the bay, so that if money is spent, it is done in a cost effective manner and has a good outcome.

Finally, there is a need to understand how fishing pressure, river flow and habitat quality interact to determine the sustainability of the oyster population in Apalachicola Bay. These factors are intertwined, and knowing how they are related is critical to sustainably managing the resource.

Thank you.



Apalachicola Bay Oyster Situation Report

APRIL 24, 2013

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This is an executive summary of TP-200, Apalachicola Bay Oyster Situation Report. The full report is available online at fseagrant.org. The research described in this document was conducted with financial support from the University of Florida Institute of Food and Agricultural Sciences, and in part by NSF award #1338372 (PI David Kimbro), NIEHS award #U19ES020683 (PI John Glenn Morris) and NOAA award #NA10-OAR4170079 (PI Karl Havens). The views expressed by the authors do not necessarily reflect the views of the funding organizations.

EXECUTIVE SUMMARY

This report summarizes efforts conducted through the University of Florida Oyster Recovery Team, in collaboration with various stakeholders, to describe conditions in Apalachicola Bay prior to and after a historic collapse of the oyster fishery. The report characterizes conditions in the bay, reviews possible causes for the fishery collapse, and outlines a plan for future monitoring, research and fishery management. Conclusions in this report are based on analyses of data collected in historical monitoring programs conducted by the Florida Fish and Wildlife Conservation Commission, Florida Department of Agriculture and Consumer Services, Apalachicola National Estuarine Research Reserve (Florida DEP) and Northwest Florida Water Management District, as well as field, experimental, and community data collected by the authors, who are reporting in their capacity as members of the UF Oyster Recovery Team.

Findings

- Apalachicola River discharge levels are strongly influenced by rainfall over the Apalachicola-Chattahoochee-Flint River Basin. The lower part of this basin was frequently classified by the National Integrated Drought Information System as in an 'exceptional drought' during the last three years.
- Water quality data indicate that 2012 was a year of high salinity at all monitoring stations in the bay likely caused by low river flows and limited local rainfall in most months.
- A large decline in oyster landings was reported after August 2012 in the bay, and the number of reported oyster harvesting trips also dropped off each month during the second half of that year.
- The 2012 decline in oyster landings and recruitment of juvenile oysters is unprecedented during the period of data analyzed and has likely involved recruitment failure or high mortality of small oysters.
- Fisheries independent monitoring data, collected by state agencies, indicates a general downward trend in abundance of legal-sized (3 inch or larger) oysters in the bay in recent years and a large decline in sub-legal (smaller than 3 inches) oysters present in 2012.
- Because of the low abundance of sub-legal oysters in 2012 there is a high likelihood that legal-sized oysters will be in low abundance in 2013 and likely in 2014 as well.
- The current size limit of 3 inches appears to be effective at reducing the risk of "growth overfishing" where yield (pounds of meat harvested) is reduced because

oysters are harvested at too small a size. However, it is essential that this size limit be accepted by the community, adopted by the industry, and enforced by regulatory agencies and the county judicial system. Substantial future harvesting of sub-legal oysters could have negative effects not only on oyster populations but also a serious impact on the national reputation of Apalachicola oysters as a high-quality seafood product.

- Oysters, white shrimp, brown shrimp, blue crab and multiple finfish species have been analyzed for the presence of oil residue. All samples were either below the limits of detection or below quantifiable limits. Thus, based on analyses conducted so far, there is no evidence of chemical contamination from the Deepwater Horizon oil spill in the seafood sampled from Apalachicola Bay.
- A large percentage of oysters in the bay have some degree of shell parasitism by clams, polychaete worms, sponges or other organisms. This parasitism negatively affects the integrity and aesthetics of the oyster shell, the overall growth and productivity of the oysters, and the economic value of product bound for the half-shell market. There are no historic data to compare degree of shell parasitism observed in 2012-2013.
- Oyster leases should be explored as a possible alternative to open-access fisheries. The concept of TURF (Territorial User Rights Fisheries) as a lease arrangement could be appealing to oyster fishermen and help promote restoration actions such as re-shelling because the fishermen would benefit directly from the restoration activities they were engaged in by having a "share" of the restored area (the lease) to manage and harvest from.
- The total current area of oyster bar in Apalachicola Bay that is not open to fishing is unknown, and the degree to which this area is the source of the oyster spat for the entire bay also is unknown. If this area is small or declining, then large-scale oyster relay from these closed areas to areas open to fishing may reduce the total spat available throughout Apalachicola Bay, increasing the risk of "recruitment overfishing" where harvests of adults could influence availability of future spat.
- Therefore, the practice of 'relaying' should be carefully evaluated in regard to its short-term benefits versus potential longer-term negative impacts to the fishery—in other words, whether or not it is depleting a substantive portion of the source population of oyster spat.
- Management actions such as shell planting could expedite the recovery of Apalachicola Bay oyster resources. However, a new modeling tool called ECOSPACE, brought forward by the UF Oyster Recovery Team, suggests that shell planting needs to be conducted at a considerably greater scale than current levels to be effective—approximately 200 acres per year for a 5-year period. A very important uncertainty is whether shell planting should concentrate large amounts of shell in small areas to create thick layers of shell or whether shell should be spread over larger areas but not in as thick a shell layer. Restoration should be done in a manner that provides information on efficacy and cost-effectiveness of different shelling strategies, including evaluating different densities of shelling and different kinds of shell material.
- A participatory decision-making process, involving SMARRT (the Seafood Management Assistance Resource and Recovery Team), relevant state agencies and experts from the state university system is needed to support long-term management of the oyster fishery in a more robust manner. The ECOSPACE model could further support members of SMARRT and management agencies to screen different policy or restoration alternatives.

■ Recommendations

Monitoring

- There is a need to continue the monitoring of oysters in Apalachicola Bay, both in terms of tracking landings reported by oystermen, and in the sampling done by state agencies. The fisheries independent monitoring program needs to be expanded in its spatial extent to include all of the bay where oyster bars occur, including areas that are closed to fishing, because these may represent important sources of oyster spat.
- Oysters should be included on the list of invertebrate species routinely assessed by Fish and Wildlife Research Institute (FWRI) stock assessment staff. These assessments can identify persistent uncertainties in oyster ecology or population status and help guide research such as the relationship between Apalachicola River flows and juvenile oyster survival rate or culling mortality.

Management and Restoration

- Acceptance by the community and industry, and enforcement and adjudication of rules regarding size limits, spatial restrictions, and weekly and seasonal closures is essential for these measures to be effective in sustaining the oyster population.
- Throughout our work on this project there were persistent reports of high levels of unreported harvest and illegal harvest from closed areas. While tangible evidence of illegal activity is not available, it is clear from our simulation models that lack of compliance with current regulations could greatly reduce the likelihood of Apalachicola Bay oyster populations returning to historic population levels, regardless of management action taken.

Research

- Research is needed to identify an optimal approach for monitoring long-term settlement, juvenile and adult survival, productivity, health, mortality, oyster diseases, and product quality of oysters. Subsequently this information could be used to inform changes in the oyster monitoring program.
- Research is needed to quantify how oyster population dynamics, product quality and the fishery are affected

- by interactions between river flow, nutrients, salinity, harvesting intensity and restoration methods.
- There is a need to assess the harvesting practices of the oystermen and how they respond to changes in oyster abundance.
- The ECOSPACE model has additional functionality to identify effects of varying flow regimes and to screen flow alternatives, relative to Apalachicola Bay oyster population dynamics and harvest potential when the model is linked with the Apalachicola Basin River Model currently being used by the Apalachicola-Chattahoochee-Flint River Stakeholders Group.

Outreach and Education

- A community-based outreach and education program is needed to foster actions consistent with supporting a sustainable bay ecosystem and economy.
- Involvement of oyster harvesters and processors in research and restoration projects can aid in educating the entire community about bay stewardship.

The Future

The situation in Apalachicola Bay, as outlined in the pages of this report, highlights a series of interwoven ecologic, fisheries, and community concerns. The bay is a national treasure, and its demise would sever critical links among our modern society, nature and our heritage. Work to date is a starting point toward understanding the processes underlying the current crisis, and includes steps that can and should be taken in initial efforts to restore the bay. However, if we are truly committed to bringing the bay back to a point even close to its former productivity, a great deal of work is still required. These studies and analyses were conducted on a shoestring budget with internal funds from UF/IFAS, and limited support from Florida Sea Grant and from the National Institute of Environmental Health Sciences. If we are truly committed to the restoration of the bay, we can't stop here. There is a critical need for follow-up work, bringing together state and federal agencies, academic researchers, and the community, to look out over a 5-, 10-, and 20-year time scale, to conduct interventions, do the necessary research, and monitor outcomes. This will require a strong leadership structure and it will cost money. The question remains as to whether we, as a society, are willing to make this investment of time, and money, to preserve this priceless natural resource for our lifetime, and the lifetimes of our children.

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Senator NELSON. OK.

Senator Rubio?

Senator RUBIO. Thank you.

Dr. Havens, so just to summarize your testimony in a sequence of how we would want ideally for things to work, you want to get the flow back; that is obviously the most critical element of it. Simultaneous to that, you need to begin and ramp up these restoration projects.

Can that happen before—in essence, you can't really fully do the restorations that you have talked about unless the flow is happening? Or are those some of those things that you can start to do already?

Mr. HAVENS. So we could start right away doing restoration projects. In fact, these guys have been doing some of it already.

Senator RUBIO. The reason why I ask is that might be one of the things we want to include in any sort of funding vis-à-vis the emergency declaration.

Mr. HAVENS. Right. So oysters are interesting because when they are harvested, you are taking the oysters and you are taking the substrate that they grow on. And so—

Senator RUBIO. You have to replenish.

Mr. HAVENS. And so the more of that substrate that is out there when the time of year comes when larvae oysters are in the water, the more place there is for them to settle and the faster the population—

Senator RUBIO. But that is something we could use emergency funding for? And would that be—

Mr. HAVENS. Absolutely.

Senator RUBIO. Yes.

Mr. HAVENS. That is, I think, right now the highest priority.

Senator RUBIO. And then so, when it comes to the flow, are human withdrawals the only thing that are impacting the ecology? I mean, are there other factors other than this flow issue that we should be concerned about as well?

Mr. HAVENS. So on the flow issue—so I am not a hydrologist, so then we are getting outside of my area—

Senator RUBIO. Neither am I.

Mr. HAVENS.—of expertise. And so I can't sit here and say I know what part of that low flow is due to climate change versus human withdrawals.

Senator RUBIO. No, no. Is the flow the only issue impacting the ecology? Are there other issues, other than the flow, that are impacting the ecology of the estuary?

Mr. HAVENS. The two big things seem to be flow and the substrate quality. There are areas of reef that have been decimated by tropical storms. There are areas where you guys go out and the bottom is flat where there used to be a reef, and no larvae are going to settle there no matter how many are in the water. Those are the two big issues right now.

Senator RUBIO. Hence the restoration stuff we just talked about.

Mr. HAVENS. Right. And then, you know, when you restore a reef, giving enough time for it to become healthy again before you start harvesting oysters off it.

Senator RUBIO. OK.

You talked about models for a second. Do you have models or are there models that exist that could document what the water flows were with and without the human withdrawals that you discussed?

Mr. HAVENS. I don't know, but that is a very logical starting point, right? You would have a model of the basin, and you would say what was it really like and what would it have been like—

Senator RUBIO. You could go back 50 years and see what it looked—

Mr. HAVENS. Yes.

Senator RUBIO. Do we have models that show where—

Mr. HAVENS. I am not aware that a model like I described exists.

Senator RUBIO. OK.

Mr. HAVENS. But it could.

Senator RUBIO. You were shaking your head “yes,” Mr. Tonsmeire. Are you saying you can do that, or do you have that?

Mr. TONSMEIRE. Yes, sir. Actually, the Corps has a model, I think it is called the ResSim model. And there is also a group of stakeholders in the Apalachicola-Chattahoochee-Flint Basin that have also put together a similar approach to look at where is all the water going, what are the flows that will remain in the system based on changes in operations or changes in use in the basin. So, yes, sir, they do exist.

Senator RUBIO. And then for Mr. Hartsfield and Mr. Banks, we have heard a lot about the technical aspects of it, the water flow, the ecology, estuary, all these sorts of things. But what is really helpful to us is the human side of this, the people side of it. You know, statistics are important and we got to look at them, but what really compels people to action, particularly our colleagues that aren't from here, is the human side of it. So I think you are part of a broader narrative in this country.

You know, we are a nation that has never envied the people who have made it. We look at people who have made a lot of money and we congratulate them and we look at them as a source of inspiration, “Maybe one day we can do that.” But they can generally take care of themselves.

We obviously will always have had people that are struggling in this country, and, you know, we feel bad for that, and that is why we have a safety net program, not as a way of life, but to help people to get back on their feet.

What seems increasingly to be lost in America is everybody else. You know, the hardworking people that, you know, take on a second job because they don't want to depend on anybody or on the government, people who have always paid their mortgage on time even if it has been a struggle, people who have done everything they can to give their kids a better life, what we have always known as the great American middle class, which I think your industry is so representative of.

And I just wanted to hear a little bit more about the stories of the people. Because a lot of the things that are hurting our middle class across our country, in addition to some government policies, is the change in the nature of our economy, the globalism, and all these sorts of things. But this, what is happening here, is very specific to a concrete manmade action, to something that people and

governments have allowed to happen that is directly impacting people and which we know the answer for.

I want some of the human stories behind this of the people who have done this for a living for years. This is how they have raised their family. It is not just a cultural tradition, it is not just a family tradition, it is their livelihood, which they take pride in. You get paid to do something that you love. With this, you don't just help raise your families but you help build the community.

What is happening now? I mean, are people leaving? What does it look like for people in the real world? What are they doing? I mean, how are they dealing with this, and how much longer can they hold on? Because I really think on the record our colleagues need to hear those stories.

Mr. HARTSFIELD. Well, just to give you an idea, since just deciding to participate in the shelling program we have been doing, we had 239, I think, at the last number, and out of that we have lost, like, the number is right around 60 that has actually moved away to find work elsewhere.

Senator RUBIO. Two hundred and thirty-nine participants—

Mr. HARTSFIELD. Participants, correct.

Senator RUBIO.—of which 60 have already left.

Mr. HARTSFIELD. And around about 60 has left.

Senator RUBIO. Left the industry or left the county?

Mr. HARTSFIELD. They come back to the county as much as they can, but they have gone elsewhere to work. And then they are doing shutdowns, they are doing millwork—

Senator RUBIO. Whatever they can find.

Mr. HARTSFIELD.—whatever they can find, you know, elsewhere. And I don't know what all those jobs are. But, I mean, I know that some are going to Louisiana, Texas, all over the county—I mean states, finding other jobs to do for a short period of time, where they can come back.

Senator NELSON. Is that just since last August that 60 have left?

Mr. HARTSFIELD. Yes, sir. That is just the numbers that we have participating in our program. You know, there are lot of guys that are still diehard that are struggling to try to make it. And they are not making it, you know. And you are looking at just the oystermen, but it filters on down. You know, you got—

Senator RUBIO. Yes, I am sorry, that was my next question, so I am glad you are touching on it. So we start at the oystermen. Can you describe what that chain looks like all the way down the line?

Mr. HARTSFIELD. Well, you got your catchers, you got your wholesalers, I mean your processors. And then from there you got your truck drivers, you got your shuckers, you got half-shell bars, restaurants. I mean, it goes on, you know. It goes from the state of Florida up to Georgia, all the way to New York City. You know, our oysters go everywhere, you know. And it puts a struggle all the way down that chain.

So, you know, it is hard to explain something without, you know, being out there in the reality of it. You know, that is like with our shelling program. DACS, the Division of Aquaculture, has been doing a program for over 20 years of shelling this bay. We, as seafood workers, always tried to get them to come to our natural bottom and to shell, but their barges was too big. They could not get

on top of our natural bottoms. So they just went somewhere and decided they were going to make a new bar. Never happened. Twenty years of it. Maybe one or two areas actually, in 20 years, that we caught oysters off of.

You know, we are after putting shells back on our natural bottom to restore those. There are historical bars; they will come back. They have always come back. Tropical storms have destroyed them; they have come back.

This process will speed that process up, you know. And I know that there is a lot of stuff now going into aquaculture. We are not against aquaculture. It is just that we have done that, we have been there. It is not going to work. But we know a hatchery would work here. I mean, the struggles we are having right now with a hatchery, to speed that process up would be, you know, great. And that is just finding the money to do it. But it would help us a lot.

Mr. BANKS. I can give you an example of people leaving. My brother is gone. Right now he is in Arkansas today doing a job. He has oystered his whole life up until 2 months ago. My brother, my brother-in-law, both of them are together. My uncle is out there with them.

And not only do people not understand that it is our livelihood, but it is breaking our families up. You know, we are a tight-knit community. You want to walk outside of this door, everywhere I go everybody knows me, you know. And everybody knows everybody. And it hurts when you have family members that has been as tied as we are that have to leave to go make a living because somebody decided to block a waterway up that feeds our livelihood, you know.

Man made this disaster; man can fix this disaster. Man needs to do his job. I can tell you, nobody here can understand it unless they crawl on that boat and they make a living doing it.

Every day, every day, I have been doing it. I started oystering with my dad. I was probably 5 years old sitting there coloring. Never did I know it would turn out to be this. You know, when I was kid doing it, it was just something to do with my dad, you know. I didn't even realize then I was helping him. My boys do it now to help me. I realize what it was now, you know.

But it is a livelihood, it is a lifestyle. And it is being destroyed because somebody wants to take more than their fair share and somebody don't want to do their job. And they are here with us today, and I hope they are paying attention because they can do something. Just like he said, they can open them waterways to traffic. If that is what it takes to get us water down here, put some traffic in the river, you know. We got to have some water so we can keep our bay.

And the lady here, she said I think that they could round up \$7 million. That is great. But I want the taxpayers to know just a couple months ago we sent our president to Africa with the sum of \$110 million. But we can't save this community with \$7 million? Come on. We can send him on a vacation for \$110 million, but we can't save an ecosystem in a community, a livelihood, a lifestyle? We are allowing it to die, and everybody is sitting back sleeping while it happens.

Thank you again.

[Laughter.]

Senator NELSON. Mr. Hartsfield—

Mr. BANKS. Sorry, I am passionate.

[Applause.]

Senator NELSON.—tell me, you said that several failed attempts were made by which department to seed the beds?

Mr. HARTSFIELD. The Department of Aquaculture, what we call DACS. They have had a program that they have done for years. And we have even moved to what we call relaying, which is moving oysters from one area to the next, which is out of a bad area to a good area, because of the water conditions.

But with this little bit of money we just got, we are finishing up on a 6-month program. We are working on—we worked on Cat Point, which we might have touched 35 to 40 percent of it, maybe. And we are working on East Hole right now that, by the end of the program, we might get close to half, because it is a smaller bar than our Cat Point bar. But our Cat Point bar runs into—I mean, it is hard to explain our bars. They are huge.

But we have put 7,400 cubic yards of clutch material out in these areas. We are documenting them. They are all, you know, these areas. So we have already started in a small point. I mean, maybe 2 percent of our bay is getting restored right now with this little first grant we have.

Hopefully, with more studies with the University of Florida, they are stepping in and trying to help us learn and do projects that make sense.

I mean, there are all kinds of projects we have seen just since—we have been in this bay all our life. We laugh at them. We already know that is not going to work. Just aquaculture, farming oysters, we know it is not going to sustain a living. There is no way in one month you are going to harvest enough off of a leased area to sustain you for a year. There is no way. We know that. It has already been tried, you know.

But with the right management of this bay—we have already started. We got a SMARRT group. It is the Seafood Management Restore—my mind has gone blank—Seafood Management Assistance Resource and Recovery Team that has somebody in each basin of our seafood industry—crabbers, shrimpers, oystermen, dealers, associations—to look at these particular areas, not one person looking at the whole entire bay. You got somebody representing the whole ecosystem. With this committee, with the right kind of management of this bay, we can help this bay come back quicker.

But we are not going to help this bay do anything, back to the same subject, without this freshwater. But we are making the steps, this county is making the steps to make a difference. But it is all going to be nothing without freshwater.

Senator NELSON. Dr. Havens, tell us what is the role of IFAS with regard to these programs that Mr. Hartsfield is talking about. And which agency do you interface with to help them in replenishing the beds?

Mr. HAVENS. Right. So mostly what we have been working on are things that can be done within the bay, because we don't have control over the water flow right now. But there are things that can be done to help the oysters recover. And these guys are on the right track, that if we establish a robust community of oysters out there,

they will be more resilient to the next time the low-water-flow event comes and they will get the production going back up again.

Department of Agriculture and Consumer Services is one of the agencies, and the Florida Fish and Wildlife Conservation Commission is another agency. Those are the primary two that we have been working with. Also, the Florida DEP and the Northwest Florida Water Management District. So there are really four agencies that we have been working with.

Senator NELSON. OK.

Let me ask you, Mr. Tonsmeire, as the Corps starts to update the Water Control Manual on the question of flow, can any tools such as the Endangered Species Act, be utilized to resolve this problem?

Mr. TONSMEIRE. It will not resolve the problem in the bay here.

And maybe this sounds odd coming from me, but I have had the privilege of working with three colonels and two generals over my time at Apalachicola Riverkeeper and introducing them to Apalachicola River and Bay, and I find them to be the highest-quality individuals and people and the best-intentioned. But what they were saying to you today is, we are required by law to follow the law. And that is their interpretation, is their version of meeting the law is to supply water for the endangered species.

What General Schroedel, two generals back, said before a National Academies of Science testimony was, there is not enough water to meet all the uses in the ACF system. So individually I believe that, but, you know, as officers and servicemen, they do not disobey the law. They follow the law. And whoever is telling them that is the law, I will disagree with them, but essentially they are following their orders, and they are not going to change from that.

And I think until the Congress changes the law so it is ultimately clear to them that they have to meet these flows down here, they are not going to—there is not the tool in the bag for them to do that right now.

Senator NELSON. Let me ask you about, have we had any respected outside entity, such as the National Academies of Science, that has gotten into this in helping with the interpretation of the existing law?

Mr. TONSMEIRE. The National Academies of Science did hold two meetings in Washington to discuss the issue, and that is where General Schroedel made his comments. But the interpretation of the law has been slugged out in the courts. And it is what it is, and the Corps has their position on it.

Senator NELSON. So, in your opinion, there is no wiggle room for the Corps as they develop the water control policy?

Mr. TONSMEIRE. If there is one thing they are, it is consistent. And that has been their message for the 30 years I have been working in this, is that they are not authorized to provide flows to Apalachicola River and Bay. They have their authorized purposes of the basin. They meet those. The Endangered Species Act requires them to provide flows for endangered species. That is their interpretation of fish and wildlife authorization. And that is their story, and they have stuck to it.

Senator NELSON. I know you are not a lawyer. Do you have any opinion with regard to the lower court, the district court judge's ruling that gave that flexibility?

Mr. TONSMEIRE. Well, I think he was a very smart man, of course. But the Clean Water Act, the Coastal Zone Management Act, there are other ways to interpret what the Corps' authority and what their responsibilities are. But for whatever reason, they have chosen that.

I think Judge Magnuson, I think, if you are referring to, he clearly made it evident that he felt water supply was not one of their authorized purposes. And that has been reversed. So I don't—

Senator NELSON. And what is it in the existing law that they think suggests that the upstream water supply takes primacy over the water supply for downriver users? What do you think of that interpretation?

Mr. TONSMEIRE. I think that Pete Taylor sort of answered the question when he said, you know, we interpret the fish and wildlife authorization as us needing to abide by the Endangered Species Act.

Senator NELSON. Only that?

Mr. TONSMEIRE. That is—is that right, Pete?

Colonel TAYLOR. Fish and Wildlife Coordination Act and Endangered Species Act are our main fish and wildlife purposes.

Mr. TONSMEIRE. OK.

So if you look in the manual in how they determine what they release to us, it is based on a biological opinion from the Fish and Wildlife Service on what the minimum flow releases are to provide for those endangered species—three mussels and a sturgeon.

Senator NELSON. And that is it?

Mr. TONSMEIRE. Yes, sir.

Senator NELSON. OK.

Dr. Havens, do you have any comment?

Mr. HAVENS. No. Thank you very much.

Senator NELSON. Senator Rubio?

Senator RUBIO. Yes, just one last question.

Mr. Tonsmeire, I understand that when we were debating the Water Resources Development Act in the Senate, you began a dialogue with some of the water managers in Alabama. Is that correct?

Mr. TONSMEIRE. Yes, sir.

Senator RUBIO. And can you just describe the progress that was made there or the nature of it?

Mr. TONSMEIRE. Well, mostly we talked with Brian Atkins from the—he is the director of the Alabama Water Resources Department.

And, essentially, the state of Alabama had their track of the best thing for them was to control the Corps' operations in Lake Lanier, because they felt like what the Corps was doing up there was essentially doing what we think, is they are taking the water away that could benefit Alabama. That is both in the ACT Basin and the ACF Basin. There are large Corps reservoirs in the tops of both of those basins. Both of them affect Alabama.

Their interests were best served by them getting control of the Corps' operations to make sure that they don't provide benefits to Georgia without considering what was going on in Alabama. They didn't want to switch onto a different track that would maybe di-

vert the attention away from what they needed. So they were not willing to support the freshwater flows language.

Other stakeholders that we spoke with understand that Mobile Bay is actually having somewhat similar impacts from Corps operations as Apalachicola Bay. They are just not nearly as dramatic as what is going on here. Their white shrimp harvest and spawning has been reduced significantly in that bay. Their oyster harvest is significantly reduced. But they have more oil wells over there in their bay, and we kind of like our oysters here. So I know that they have also problems on the rivers below some of the Corps dams in Alabama, where the rivers have fish kills because of high DO because of low releases.

It is not that—I don't think that I can make any statements for them other than they were stuck on their track and didn't want to change. I don't know that they will oppose the language that Senator Nelson drafted. I never got a clear statement on that.

Senator NELSON. Dr. Havens—and this will be about the final question unless, Senator Rubio, you have some additional ones.

But the problem is not just the holding back of the water at Lake Lanier and that flow south, although that is the major problem. The problem also is illustrated by that map and that chart of all the water consumption that is being sucked out of the ground that would otherwise flow into the basin, either into the Flint and/or the Chattahoochee. And with that chart, we were shown just how prolific all of that water consumption is. That, of course, is a great agricultural area in southwest Georgia that is running right along the Flint there and over to the Chattahoochee.

So that is all governed by state of Georgia law, water consumption. And yet, what it is doing is it is affecting an adjacent state—two states. How do you think we ought to approach that?

Mr. HAVENS. Well, yes, so we talk about Atlanta, but there is a huge amount of water that is being withdrawn out of that Flint River Basin by those agricultural operations.

Florida has addressed it through implementing ways to conserve water with irrigation systems. I don't think it has been done to that extent in Georgia. They don't know the process. Because then you have to start talking with an agricultural engineer. I mean, there may be a way to do it that doesn't affect their crop yield, that really doesn't affect their bottom line, and it is a win-win for everyone.

And it has been done other places. I worked in south Florida for a long time, and it has been done in big agriculture areas like the EAA. And there are ways to conserve the use of water and still have a good crop yield and still have water going to natural areas. So it isn't inconceivable that that could be done.

Senator NELSON. The fact that recently we have seen an enormous amount of rainfall in that part of the southeastern United States, are we going to see any relief of the water that is coming through the Flint coming down here into the Apalachicola?

Mr. HAVENS. I think we will have to see what the weather is like over the next couple of years and the water withdrawals to really know. It is going to take several years of good flow conditions for the oyster population to recover.

There are two interesting things nobody mentioned, but if you have ever looked at the river flow history, it goes up and down. It looks like the teeth of a saw. And in the wet season when we get a lot of rain, it is really high. And that is important because that pushes all of those predators and things back out into the Gulf of Mexico.

And in the dry season, it looks lower but there are little bumps in it, and that is important, too, because it keeps the system in what we call disequilibrium. And last year it was a flat line. And a flat line is really good for predators and things because it is very predictable. And they get in there and the conditions are just always good for them and they don't get those little blips.

And that is probably the part that would be easiest to influence by some flow of water down the river. Maybe you can't simulate by adding water from reservoirs a wet season pulse, but that dry season thing might be something that could be influenced.

Senator NELSON. Mr. Tonsmeire, does this exceptional amount of water consumption in the Flint Basin, does that suggest that the state of Florida should be considering a lawsuit, how one state's water consumption is affecting another state's economic and environmental interests?

Mr. TONSMEIRE. I believe there is the case for that, Senator. That is probably one of the next lawsuits on the horizon if we can't resolve this. That is a direct challenge in the original action in the Supreme Court.

And I think there is no question that we can show the harm that we are suffering in Florida, but it is a long, drawn-out process, and these guys are not going to survive that. I think if there is a way Congress can deal with it in short order, it would be best.

Senator NELSON. Senator Rubio?

Senator Rubio and I want to thank all of you for coming. We want to thank each of the panels. We want to thank the Congressman who led off in the first panel.

The Committee record will remain open for 10 business days for Senators to submit questions and for any member of the public to submit testimony for the record.

And we want you to know how much we appreciate everybody showing their interest today.

With that, the hearing is adjourned.

[Applause.]

[Whereupon, at 1:17 p.m., the hearing was adjourned.]

A P P E N D I X

As solicited at the conclusion of the live hearing on August 13 in Apalachicola, Florida, the following comments are submitted “for the record”, subject as above:

I am David McLain, a U.S. citizen voting in Franklin County, Florida. I have been closely involved in the water management dispute between Florida, Alabama, and Georgia for over 15 years in a variety of roles, paid and, lately, as volunteer and community advocate.

First, I thank our two Florida Senators, Sen. Nelson and Sen. Rubio, for their sponsorship and informed leadership of today’s Field Hearing of this Senate Committee. As all who were present will testify, the meeting spaces were jammed to overflowing with concerned citizens whose very lives and futures are dependent on subsequent actions taken by our Federal Government. As a water management dispute of over 22 years of failed negotiation, mitigation, and litigation directly involving three states, an equitable allocation of the freshwater flows of the ACF Basin will not be resolved without active Federal intervention in this interstate “water war”.

Second, it is entirely too easy to blame the Federally recognized catastrophic failure of the Apalachicola fishery on the volume of freshwater flows downstream during recent drought conditions. Drought is undeniably an unfortunate recurring event in Nature. But I must assert as forcefully as I can—the severity and duration of any drought are due to the actions of Man, or Man’s failure to act. Significant and mandatory restrictions on water consumption, plus aggressive repair of water-handling infrastructure, and implementation of restrictions on permitting of water use are critical management actions during any drought.

Finally, I would argue it does little good to vilify the Corps of Engineers, the farmers of the Flint Basin, or the citizens of Atlanta while we seek a rational resolution of this shared problem. I might even go so far as to say, we will never reach a sustainable solution for adequate freshwater flows to a healthy and productive Apalachicola Bay until we help Atlanta and the south Georgia stakeholders find a mutually acceptable solution to meeting their water needs. A Basin-wide agreement has been reached in similar circumstances—such as the Delaware Basin Regional Authority. Shared gain or shared pain.

PS: The most “Endangered Species” in our Apalachicola River and Bay is a two-legged variety . . . our 4th generation Apalachicola Oysterman.

DAVID MCLAIN,
Governing Board Member,
Apalachicola-Chattahoochee-Flint Stakeholders.

The flow running down the Apalachicola River has impacted our organization’s philanthropy coming out of Franklin County, Florida. The economic impact to businesses and individuals who support our mission has shown a sharp decline.

DAN SAMBORN,
CEO,
Capital Area Chapter Red Cross.

There is no way that any one or two states should have the legal right to control a river running through their state, into another state. This is one thing I believe that should be under the Federal Government. I am not a big fan of Federal control, but in this case, there is no other answer. It’s time that the politicians in Atlanta give up washing their cars and watering their lawns, and do what’s right. . . .

GARY SHANNON

Please accept this as my comment on the public hearing held August 13, 2013, in Apalachicola, Florida. I have lived here all my life (I am now 51 years old). I have seen the shift in the balance of freshwater and salt water in the Apalachicola Bay. The Bay is now much saltier. I have seen the devastating impact on the Bay, the Apalachicola River, and our economy. Please help us save the River and the Bay, and our seafood industry. Thank you!

J. GORDON SHULER,
Esquire,
Law Office of J. Gordon Shuler, P.A.

To Whom It May Concern:

I am the Executive Director of the Carrabelle Area Chamber of Commerce. I attended the hearing on August 13th in Apalachicola about the water flow in the Apalachicola River. It is critical for the Apalachicola Bay to get enough freshwater so that our oysters and our marshes, where our sea life begins and is nurtured to live. We have not received an adequate flow of freshwater for this to maintain our sea life. Our main industry is the seafood industry and it has become a critical situation for our people. Our seafood industry is a generational one and if the Bay does not get the right amount of fresh flow, then the Bay will die. This industry has a trickle down effect, from our restaurants and all shops that depend on our tourism due to our beautiful Bay. There is no other place in our country that has the eco-system that we have with our Bay and Estuaries, they are priceless and need to be protected and fed.

Please help us save our Bay and the lives that depend on it.

Thank you,

SUZANNE ZIMMERMAN,
Executive Director,
Carrabelle Area Chamber of Commerce.

I personally believe as a restaurant owner on SGI the oysters are being over harvested and rules/regulations on size are not being properly enforced. We are constantly buying oysters and paying premium prices and getting junk. Here lately the bay has been closed several times because of too much fresh rainwater as well as the Apalachicola River flooding.

MIKE CANNON,
The Beach Pit Restaurant, Inc.

Funny how all this is happening during a year of heavy precipitation which has all the reservoirs filled to the brim along the entire ACF basin and a recurring flood stage warning on the Apalachicola River. I was on the courthouse steps yesterday to see the ludicrous signage mandating that water be released from the Dams upstream. The well intentioned but hugely misinformed persons present at this protest don't really get the big picture at all. These are changing times and the high cost of fuel combined with cheap foreign imports and years of overharvesting are as much the cause of collapse of the seafood industry as any water flow concern. The reality is that it is unreasonable to choke off the drinking water supply to the many millions of people upstream to save a few thousand jobs in Franklin County. As a sixth generation resident of Apalachicola whose many years in the "real" world have included military service, eight years with the international accounting and consulting firm Ernst & Young, an entrepreneur who grew a technology company from a spare bedroom operation to a healthcare technology firm with gross revenue of nearly \$20 million which was purchased by Bank of America, and now retired back in Apalachicola, I see the need for innovation and a new economic model based on maritime heritage and educational tourism. Is this situation so much different than the collapse of the seafood industries in the Northeast? NO. . . Instead of wasting time and money propping up economic models that are no longer viable, it is time bring investment in visionary new models and help train our citizens to make the transitions that so many others have been made. My great great Grandfather Samuel Floyd came here in 1842 during the time that Apalachicola was a international port made rich by the export of cotton from plantations upstream. Through time the area has seen many industries come and go including cypress lumber mills that dominated the waterfront, naval stores industries that flourished by creating many extracts from pine rosin before the advent of petroleum products, sponge harvesting

and others. Government was not here to prop up those industries during transition. Instead entrepreneurs lead the way to change as best they could. The statewide net ban which devastated my grandfather's business . . . and so another way of life saw a sunset. It is time for leadership at all levels to invest in new ideas and economies rather than pander to the well intentioned but misinformed.

My father was the director of Information and Education for the Florida Wildlife Conservation Commission where I came to be aware of our natural systems and wildlife. I have lived for 23 years on Lake Lanier and now live back home in Apalachicola. That gives me another perspective not shared by many. I have sponsored the award winning NPR documentary at <http://www.wuft.org/projects/rivers/intro.html>. Upon retirement, I founded the Apalachicola Maritime Museum www.AMMFL.org where we are in the midst of reviving wooden boat building with a program recognized by the Florida Department of Education where we have been invited to present at the state conference in Orlando in October. We are bringing commercial paddlewheel travel back to the river with the first commercial transportation provided since 1927. We are opening a 120 acre campus in Chattahoochee FL where the traditional riverboat landing exists.

If every you would like to discuss this I would be enthusiastic about the opportunity to share visions for the future.

Respectfully,

GEORGE KIRVIN FLOYD

The U.S. Army Corps of Engineers is starving the Apalachicola River and Bay of the freshwater they need to survive. Congress created this problem by giving the Army Corps a free hand to manage the Apalachicola-Chattahoochee-Flint system to benefit upstream states at the expense of Floridians and the River, Floodplain and Bay. Only Congress can fix this problem.

I call on Congress to act now to pass legislation requiring the Army Corps to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows needed to support, restore, and reestablish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

LESLEY COX,
Certified Green Guide.

I feel this is an excellent opportunity for every community which shares the watershed that Impacts Apalachicola Bay. There are great examples of wetland restoration via WRP, CRP, EQUIP that should be fully funded and additional allocations made. Also as an organic farmer for over 30 years and an advocate for clean water I also know that these farming, gardening and lawn care techniques sequester carbon, filter storm drain runoff, mitigate the runoff off nitrogen fertilizers which create Dead Zones. We know that educating and informing the public as to their role and contribution to clean water, healthy food and safe lawns in their communities they in turn contribute to the health of a clean and thriving bay. This great bay should be protected under every means possible. The health of the waters and the strength of the economy and local culture depend upon urgent and impressive measures.

There must also be more done to stop sewage runoff into this bay. Under no circumstances should there be efforts to attract more tourists to the area without first attracting and retaining those who come here about the importance of their own stewardship. We have too many now, local and visitors who feel entitled to behave how they so choose. This is an opportunity to make Franklin County as well as Wakulla, Gulf and our neighboring counties and states to the north to become the "greenest" in the country. Let's show the Nation that we really care about the future and are going to pull out all the stops to make that happen. Schools could also play a huge roll in this endeavor. This area is so fragile and attempting to invite more people here is a huge mistake. We need Eco warriors as our guests not consumers only. Visitors and residents can and should become the voice for the Nation as to how together we can create a vibrant watershed shared by many, not just a select few that enhances the economy while making the environment and its inhabitants the top priority.

Please take advantage of all the existing resources to adopt non polluting, more conserving and over use of our precious water. Every home and business should have rain catchment and mitigation plans Implemented.

Thank you for your efforts. If there is anything I can do to help with these efforts I would be honored to help.

God Bless America and God Bless Apalachicola Bay

LORNA DONALDSON

Help!

We really need some freshwater down here and hope you'll can make that happen.

It seems like a no-brainer but somehow has stumped even the most intelligent folks.

Please help our water flow into the Apalachicola Bay as it should, this is hurting our pristine area, the wildlife, the oysters and our businesses.

Please, please, please do the right thing.

Thank you so much for your assistance with this crucial matter.

DIXIE PARTINGTON

Water is life. Every plant and animal on this planet needs water to survive. When natural conditions deprive an ecosystem of the water it needs, that is unfortunate but understandable. When a state deprives an ecosystem of the water it needs to survive, so that the citizens of that state can have greener lawns and cleaner cars, that is deplorable and avoidable. We, the citizens of Florida, are not asking Georgians to deprive themselves of the water they need for their life, their livelihoods, and the life of their ecosystems—We are only asking that they not deprive Florida of its cherished ecosystems by wasting water on the pursuit of vanity.

Thank you,

ERIK C JOHNSON,
Bristol, Florida.

Dear Florida Congress,

Not only did my grandfather drive up to Apalachicola regularly to savor fresh oysters in the 1920s and all his life, I, too, fell in love with Gulf County when I was a graduate student at Florida State. My husband and I vacation in Indian Pass and Port St. Joe several times annually to enjoy this perfect place which has already been dealt a blow by the Gulf spill. I urge you to proceed with a course of action that will preserve both the oyster habitat and the way of life for these people. Humans can adapt to water reallocation; oysters cannot. That we understand what is happening here and can still do something to reverse it is nothing short of wonderful. Please go to heroic lengths for the sake of this beautiful Florida coastal gem.

Sincerely,

LARA MOODY MCGLOHORN.

I recently visited Apalachicola as part of the Natural Resources Leadership Institute which is focusing on water issues throughout the State of Florida. I was incredibly moved by the close-knit community there and how real the oyster situation is there. Residents are struggling to survive on their long-found culture and heritage. They have done all they can as a county to fight these water wars and they take pride in the Bay, but they continue to suffer from actions further north. The Bay has several recognitions all the way up to the international level. If we cannot protect a Bay which have proven to be a vital source of life for both people and animals, where are we to find hope in the future? We experienced similar water wars here in Pinellas County which led to the creation of Tampa Bay Water who helps to control the distribution of this critical resource. I ask that you take this situation extremely seriously and to heart and our people are being affected right now. This is real.

Thank you for your time and consideration on this issue.

LARA MILLER

To whom it may concern,

I wanted to take a moment and send an e-mail and voice my concerns regarding the current water issue in Apalachicola Bay. I'm quite sure that you are aware of the current situation that is taking place there.

This is a very unique ecosystem and a vital part of life for not only mankind but nature as well. Many families, and not just those in that particular area would be affected by the loss of the oyster industry. The fisherman are a start but it goes deeper than that. The truck drivers that transport the harvest, restaurateurs and many more would suffer if there were no more oysters.

Furthermore, this estuary provides habitat for many aquatic species as juveniles before they reach maturity and continue their life cycle in deeper waters. Grouper, being a staple in many restaurants and food supply chains and a sought after species in the sport fishing/tourism arena call this area home in its early stages of life. Other fish including mullet, which create numerous employment opportunities also reside here. Crab and many other forms of shellfish and crustaceans rely upon this nutrient rich area as well.

There are also benefits to be reaped during hurricane season from having these oyster beds in Apalachicola Bay in that the structure of the beds slows storm surge associated with these tropical systems.

If something is not done to stop the current trend and the crisis that is taking place, it will certainly be devastating on many levels. I urge you to take a moment to think and do what is necessary, not to mention the right thing to do, to save this important environment. Thank you for your time.

Sincerely,

CLINTON M. DYER

If minimum flow standards are not implemented by the ACOE, then it is only a matter of time before drought conditions spur Atlanta to hoard all the water that the river has to give. This will cause the bay to suffer a catastrophic degradation of its estuarine capabilities. When that happens the bay dies, the town dies, and the country loses one of its great ecological treasures.

EDWARD MICHAELS

Dear Sara,

I wonder what our priorities are when we come so close to allowing the total destruction of indeed the last great bay? I understand the economics of the situation clearly: Atlanta wants, no demands, more water to fuel its sprawl and like greedy children intent on having more than our fair share, we are so myopic in our greed that we turn a blind eye to others who have a vested interest in this resource, water. There has got to be another way to achieve Atlanta's need to continue growing (though I don't see that need and I live here) and the more important endeavor (in my eyes) of ensuring sufficient water flow to the Apalachicola basin.

Because if we continue strangling this area by not restoring the flow to the rivers that feed it we aren't just killing the bay and all its flora and fauna but we are murdering the lives and the livelihoods of those who rely on this beautiful national treasure for work and play.

I have been going to the "Forgotten Coast" and "Appalach" ever since I was a young girl. My Daddy owned a large fishing boat we kept at the marina there.

Nothing is better than driving in 98 from Port St Joe to Apalachicola. A stop at Boss Oyster is a must, or the Gibson Inn, going over the St George Island Bridge and seeing the oystermen tonging the oysters up as they have done exactly the same way their daddy's and granddaddy's many times removed have done. Or fishing off the dock with my family while on vacation. We always catch something in the bay.

But continue to strangle this national treasure then all the economic benefits from tourism, fishing, scalloping, boating, eating fresh seafood at The HUT in Eastpoint, Florida . . . well guess what?

That will all be gone..not to come back any time soon. Can we as a nation afford that? You may think it is just one bay, but it's not..It's a way of life for many of us whether we live there or not.

So in this argument over water rights we as Georgians must bear in mind that growth is good to a point but what about the greater good for our region and our nation? Is our growth as a city more important than ensuring that the Apalachicola area remains a healthy and vibrant part of our Southeast USA economy? No we don't need more fake lawns to water here in Atlanta nor another parking lot for a business office.. Our time is now and in that time we indeed need to "Save the Appalach!!"

With warmest regards,

BECKY LANG

As a former resident of Georgia for over 20 years and a current resident of Franklin County, Florida, I am well acquainted with the water issues that have been deliberated for longer than anyone really wants to recall. I am sure you are well aware of the issues as well.

The Atlanta population is sprawling with little effort to impose any control and without serious effort to develop alternative water resources. I am sure you recall that Atlanta only committed to rebuilding its polluting sewer system in the last several years after numerous suits from the Federal Government, preferring to continue to dump raw sewage into the Chattahoochee River for decades and pay fines than to take responsible steps to correct the problem. Against this kind of environmental indifference, the problems of one of the least populous and poorest counties in Florida stands little chance of notice. As you are also well aware, because of its role in the development of numerous species of water life, the fate of Apalachicola Bay will influence communities and commerce far beyond the boundaries of Franklin County and even the State of Florida. It would seem that in this time of increased recognition of the importance of environmental sensitivity, saving the Apalachicola Bay would be a national priority.

Please work to insure adequate water flow in the Flint-Chattahoochee-Apalachicola river basin for the benefit of a way of an industry, a way of life, and in great measure, the Gulf of Mexico.

Sincerely,

FRANCIS AND SYLVIA GIKNIS

Hello,

We are concerned citizens. We love Apalachicola Bay. We love the hardworking citizens of Franklin County.

Please don't let the bay be destroyed.

My family and I live in Deltona, Florida. We travel to Apalachicola Bay to enjoy the fishing and gather oysters when we can.

Please help find a way to restore the flow of freshwater downstream into the bay. The chokehold that our neighbors in Georgia have on this valuable resource is killing the bay.

Thank you and God bless.

ROBERT AND BETTY DANIELS

Dear Senator Gibson [sic]—please keep the water flow to this Great Basin. Our livelihood depends on it. Also don't you love clams, shrimp and oysters? Where will we get them from? Our other sources have radioactivity.

Basically yours,

KENTUCKY PARKIS

I'm a full-time resident of St. George Island and have owned my home since 2000 but have been visiting SGI since the mid-1980s. There has been significant changes in this time. I live on the water on St. George Sound and am extremely concerned about our river, bay and estuary systems. In addition to the problems we're experiencing with the oysters, I have noticed a significant decline in the number of blue crabs in the bay. There's no telling how much the lack of freshwater has affected the shrimp, grouper, and other treasured seafood populations.

My husband and I used to catch upwards of 70 blue crabs a week in crab traps off our dock. These last 2 to 3 years, we're lucky to catch 2 to 3 crabs a week. Just a couple of weeks ago, we put out 3 traps for 3 days and only caught 1 crab. This appalling, concerning and not right.

In addition to our experience with the lack of blue crabs, our oyster industry is suffering terribly. Seeing our oystermen and women working the bay is one of the things we treasure and attracted us to SGI. There is no valid reason this should be put in jeopardy. Florida has taken responsibility for actions to preserve water. It is only fair and right that Georgia and especially, Atlanta, be required to implement water saving measures. They have unbridled growth which is negatively affecting others who are downstream in Georgia, Alabama and Florida. This needs to be immediately stopped. For what reasons are they allowed to continue this practice????!!

Please mandate that the Corp of Engineers administratively resolve the problem of freshwater flow from Lake Lanier by changing their manual to resolve the water war between Georgia, Alabama and Florida.

Thank you.

Respectfully,

GAIL M. RIEGELMAYER

The town of Apalachicola, sitting as it does on the river and bay from which it takes its name, is a near-miracle of preservation of Florida as it used to be. It is often cited as a model for New Urbanist developments such as Seaside. It's continuing existence as a healthy, balanced community is dependent on the continuing health of the Apalachicola River and Bay. It is ironic that the health of Apalachicola is being sacrificed to the profit of Atlanta, itself often cited as an example of the worst excesses of poorly conceived urbanism. Please assure the health of the river and of the bay and preserve Apalachicola.

ARTHUR MAZYCK

Dear Senate Committee:

As a lifelong resident of Florida, it pains me to see what has been happening to the freshwater supply for the Apalachicola River and the economic problems that have occurred for the seafood industry and for the hardworking people of Apalachicola and nearby communities.

I think it is important to this country that we maintain our rivers and bays to be productive for citizens and for the economy. This bay is essential to the lives of so many people.

Please make every effort to insure that adequate freshwater flows into the river from Georgia and that the bay is sustained in a way that will help the communities. The fishing economy is important not only there, but for what it does for people all over the United States with products that are part of the food that America eats.

We cannot afford for this natural resource to be crippled.

There must be a way to share.

Sincerely,

MICHAEL E. ABRAMS

To whom it may concern,

It is real simple. Save Apalachicola Bay! People travel around the world and come to this area and love it because it is a one of a kind place. We have something unique in this area unlike anywhere else. We have fresh and salt water habitats that are closely tied to one another. Changing this balance and allowing the Apalachicola Bay to "die" will destroy not only the environment but the way of living in this area. I "hog" my own oysters for my family and my children love the experience of going out in the bay and picking our very own oysters and taking them home. We do not have to pick our own oysters but we do it for the experience. Everyone should be given the opportunity of being out on a cool winter morning standing on an oyster bar and enjoying the sights and sounds of nature. To coin a popular saying "it's priceless."

This last winter I went to several oyster bars and was saddened to see little to no new growth on these bars. Actually, they looked dead. I know this has to be devastating to the industry as a whole and will undoubtedly change the way of life people from here expect and deserve. We cannot control every aspect of our destiny but our way of life is being challenged and we have had no say in this matter—that is not right and we respectfully ask that we be allowed to take more control of our waterways!

How many places in the world can you get a bucket of oysters, go 100 yards away, and catch a monster Black Drum—not many places.

Help restore and retain the environment we love!

Thank you,

RON BAUMGARDNER

Federal law mandates that when a river flows between two or more states, each state has a right to an equal share of the water. Additionally, other laws such as the Endangered Species Act require that water be available for threatened or endangered species that live in or around Chattahoochee River and Apalachicola Bay.

If Congress and the U.S. Army Corps of Engineers do not act to enforce the Federal law to share equally the southern water flow from the Chattahoochee River, which runs through three states, they possibly will be causing the extinction of the Apalachicola Bay oyster.

The Apalachicola Bay oyster, the seafood industry, and working families that depend on the oyster for their livelihood, indeed, are threatened or endangered by Buford Dam's and Lake Lanier's manmade disruption/overuse of the Chattahoochee River's southerly flow through south Georgia, Alabama, and Florida to Apalachicola Bay. The Apalachicola Bay oyster NEEDS the normal flow of freshwater not only to thrive, but to survive! Georgia Senator Johnny Isakson said it right in 2007 when he stood before his state's General Assembly saying, "The health, safety and welfare of people are threatened. They are threatened by an act this Congress passed that had no intention to threaten them."

Congress, please act to avert this disaster. The Federal "equal share" law and the Endangered Species Act are there for you to enforce. Please Save the Last Great Bay!

Thank you,

PATRICIA A. VEST

The Apalachicola Bay is one of America's greatest natural resources. It's very survival, and that of the thriving American communities who live there, depends on adequate water flows from the 3-state ACF river system.

Currently, too much water use in Georgia has reduced flows to Florida excessively. This is a difficult issue and requires careful mediation between the 3 states, at both governmental and civil society levels.

Congress should:

- encourage and support a negotiated interstate solution.
- instruct the U.S. Army Corps of Engineers to manage, with technical input from the U.S. Fish and Wildlife Service, on behalf of all of the ecological services and values of Apalachicola Bay.

Thank you.

ROBERT BUSCHBACHER, PhD

Why do I think the Apalachicola river and bay is worth saving? Because we all need to believe people can still work together to do the right thing. It could be a story to be told for generations, of how something so very wonderful and magical as this estuary was saved from the brink of destruction. Please be a part of saving one of the few last best natural places on earth.

CAROLINE WEILER,
citizen of Apalachicola.

Dear Lawmakers, Please do all you can to save the Apalachicola River and Bay. This area is beautiful, historic, and recreational. It also serves the tourist and seafood industry. The best oysters in the world come from here. I've lived in this area for 45 years. Please don't let this major source of tourism, recreation, seafood, and jobs disappear. The locals have done their part; now please do yours.

Thanks.

JANIS COURSON

Hello:

I am appealing to Congress to take steps to save the Apalachicola River and bay and to ensure the livelihood of thousands of people in Franklin County. I have had the privilege of visiting the river and bay since I was a boy. As an adult, I have kayaked the entire Apalachicola River twice and I have taken multi-day kayaking trips along the bay inside the barrier islands of St. Vincent, Cape St. George and St. George, so I feel I know the system well. I have seen a steady decline in both water levels and seafood production and fear that this system may end up like the once mighty Chesapeake Bay unless strong action is taken soon. The Army Corps of Engineers must be mandated to allow enough water into the Chattahoochee/Apalachicola system to sustain a viable oyster industry in the bay, as well as to support

the many other life forms that depend on the proper balance of fresh and salt water. We cannot afford to wait. Please act now!

DOUG ALDERSON

My wife and I owned homes on Lake Lanier in Gainesville, GA and Dawsonville, GA over a span of 16 years, and lived in Atlanta for 27 and 33 years respectively. We have owned a home on St. George Island since 2002, and until last year a bay front lot on St. George Island.

Atlanta, the state of Georgia, and the Corps of Engineers need to equitably share the water from the Chattahoochee and Flint Rivers with Florida so that one of the most productive fisheries in North America, and poorest counties in Florida, can be perpetuated for the good of people throughout Florida and elsewhere.

Having spent most of my life in Atlanta and the Panhandle of Florida I can assure you that from my perspective, and that of many others, Florida is deserving of it's equitable share of freshwater flowing into the Apalachicola Bay versus the excesses of water usage by the state of Georgia.

Assist us in obtaining what is right and necessary to sustain our fisheries, the citizens of Franklin County, and others.

Thanks for your consideration and assistance.

MARK HILLIS

Senate Commerce Committee members:

I live near the Apalachicola Bay, over in next county over (Wakulla). The Apalachicola River and Bay system is truly a unique, beautiful, and ecologically important ecosystem, which supports a wide variety of nature-based activities. I have personally fished and kayaked throughout the Bay, in addition to enjoyed the many beaches, and it is no doubt one of the best places in Florida, probably the entire Southeast. As a former fisheries scientist for the State of Florida, I have firsthand knowledge and experience of the true bounties that are produced in that Bay. I have pulled many sampling nets through its waters, and have spent many hours on fishing docks sampling fish caught by recreational anglers and commercial fishermen. It is ironic that many of the out of state residents that I have 'interviewed' on the docks originate in the greater Atlanta area. And I have been in Atlanta grocery stores where fish caught off Apalachicola are sold. The world is not disconnected. We are all in it together. We all have to take care off each other's backyards, not just our own. We send men and women to Congress to help solve cross-regional problems and issues in a bipartisan manner. We expect nothing less. We are counting on you to help save the Apalachicola River and Bay.

The Apalachicola system is much more than just the primary species that receives the most media attention: the oyster. While the current fate of the oyster population and fishery is truly unfortunate, it completely preventable and hopefully reversible. However, oysters are but the sentinel species for the health of the Bay. But the Apalachicola is one of the most biologically diverse ecosystems this side of the equator. The vast array of species, plants and animals, need ample freshwater mixing with the seawater flowing through the system. Nutrients mixed with the freshwater from the Apalachicola River no doubt reach offshore to the multiple and economically important species during the right time of the year to provide sustenance for new larvae. People and businesses in and around Apalachicola rely on many species, too many to list in total, for their livelihoods that are connected to the flow of the River. Some of the more economically important species include blue crab, gag grouper, red snapper, menhaden, mullet, spotted seatrout and redfish (red drum).

Thus, restoring and sustaining ample freshwater flow into the Bay not only can help ensure the longevity and productivity of the oyster fishery and population, but will provide assurance that the Bay system at large will survive. I am sure there is some compromise or solution that is available for the people and ecosystems at both ends of the River. Please do all you can to SOLVE the issue as Congress was designed by our Founders to do!

Thank you very much,

CHAD HANSON

Dear Ms. Gibson and Mr. Houton,

I write to you as part of the public record for the Congressional Field Hearing recently held by U.S. Senators Nelson and Rubio in Apalachicola, FL. The dispute over the allocation of water has grown more intensive through the years as metro-

politan Atlanta, GA has continued to increase in population and, as a consequence, has continued to increase its consumption of water until today we are at a point of crisis for Florida, but not for Georgia. Since the affected states have been unable to arrive at a formula for allocating water flows that would be equitable for all parties, this dispute is the proper subject for resolution by Congress.

In the long run, Atlanta's consumption of a disproportionate amount of a limited resource, such as freshwater, is simply not sustainable.

Someday, even Atlanta will need to face the limits of its resource base and find ways of supporting growth through the decrease in the per capita consumption of water. However, the fear is that Atlanta will not make the necessary resource allocation decisions until it is too late for the Apalachicola Bay ecosystem and economic base that depends on this ecosystem.

Therefore, I urge Congress to instruct the U.S. Army Corps of Engineers to establish an allocation formula that will ensure freshwater flows to sustain Apalachicola Bay, its fisheries and the economic base of the area. This action will have the added benefit of forcing metro Atlanta to face up now to its finite resource base (water). The time for action at the Federal level is now.

Thank you,

WALKER BANNING

My husband and I owned homes on Lake Lanier in Gainesville, GA and Dawsonville, GA since 1986. We lived in Atlanta for 33 and 27 years respectively. We have owned a home on St. George Island since 2002, and until last year a bay front lot on St. George Island.

Atlanta, the state of Georgia, and the Corps of Engineers need to equitably share the water from the Chattahoochee and Flint Rivers with Florida so that one of the most productive fisheries in North America, and poorest counties in Florida, can be perpetuated for the good of people throughout Florida and elsewhere.

I have spent my entire adult life in Atlanta and the Panhandle of Florida. I join many others in our belief that Florida is deserving of its equitable share of freshwater flowing into the Apalachicola Bay versus the excesses of water usage by the state of Georgia.

Please assist us in obtaining what is right and necessary to sustain our fisheries, and the livelihoods of citizens of Franklin County and others dependent on the waters that must be shared.

Thanks for your consideration and assistance.

NANCY C. HILLIS

To whom it may concern:

Please accept my request for action regarding Apalachicola Bay. My family vacations in the area frequently—it is truly a special place with such history—Florida history—that should be remembered and honored for years to come. The oyster beds are in great danger and action is needed to save the environment, the industry and the community. I encourage you to investigate all possibilities.

Thank you,

EMILY FORRESTER,
Pensacola, FL.

Sara and Sean:

I wasn't able to attend the hearing in Apalachicola last week, but I wanted to write and share my support for the efforts of Senator Rubio to address the issue. The water flows of the Chattahoochee, Flint, Apalachicola River system have been an issue for over twenty years. If the Atlanta area had addressed its long term water needs years ago, we would not be facing the destruction of our bay. Now, the survival of the oyster industry and the estuary is at stake. Please convey to the Commerce Committee my thanks for their efforts to solve the issue.

RICK
Charles Richard Watson, LLC
Century 21 Collins Realty, Inc.

No more Oysters ???

The water resources of our country require your utmost attention and priority!

Prioritizing funding and implementing all measures that will insure the recovery and return to health of Apalachicola Bay must be your most important job!

Abusing vital water resources like the Apalachicola Bar and the gulf of Mexico for the sake of recreational water use and misuse is unacceptable.

Estuaries form a transition zone between river environments and maritime environments and are subject to both marine influences, such as tides, waves, and the influx of saline water; and riverine influences, such as flows of freshwater and sediment. The inflows of both sea water and freshwater provide high levels of nutrients in both the water column and sediment, making estuaries among the most productive natural habitats in the world.

Apalachicola Bay and Franklin county's livelihood cannot be left to die!

Instruct the Army Corps of Engineers to establish freshwater flows that will sustain the Bay.

CRE WOODARD

Apalachicola Bay has been preserved over the years, and so far, by people who understand nature at its best.

Please do your part to save this bit of fishery, oyster and rural culture by insuring the river has the water it needs.

This area is precious beyond words or money.

LINDA SMITH

Please do all you can to get more water to Apalach bay.

RICK HANBY

Sara Gibson

I am urging Congress to instruct the Army Corps of Engineers to please please establish freshwater flows that will sustain the Bay!

Otherwise we are in grave danger of life altering drastically in our whole community here!

Thank you so much for your help in this urgent need!

Sincerely,

JULIE O'MALLEY

As a long-time homeowner and resident on St. George Island, I want to urge—nay, implore—the U.S. Senate to restore adequate water flow to the Apalachicola River and Bay. The consequences of inadequate freshwater on marine and human well-being in this region are heart-breaking: sharks swimming up the high-salinity river to attack freshwater species while oystermen succumb to destruction of their culture as well as income. Once the sea life and sea culture have been destroyed, they will be gone forever, diversity sacrificed to yet more monotonous suburban development upstream. An article in *Scientific American* compared the unregulated development in Atlanta to a metastasizing tumor, and I hope that the cancerous growth does not kill all that lies in its downstream path. We need a diversity of healthy species and cultures. Please save ours.

Sincerely,

ADA LONG

I am writing to urge Congress to instruct the Army Corp of Engineers to protect freshwater flow to the Apalachicola Bay.

As a nation we must overcome the boundaries of states and work to ensure the preservation of wet lands and water systems

to sustain us all. Not only is the oyster industry in danger as well as associated livelihoods but the inestimable value of this body of water which borders the southern shores of our Nation.

As our elected representatives I urge your stewardship and forward thinking in saving this great bay for future generations of Americans.

CLARISSA MICKLE

Dear U.S. Senate Committee on Commerce, Science and Transportation:

I live at the top of the Apalachicola River in Chattahoochee, Florida. Our little city sits just below the Jim Woodruff Dam that creates Lake Seminole. I moved here because of the natural areas that can be explored, and once here started volunteer stewardship of our city park on the Apalachicola River. For six years I have led volunteer workdays to remove invasive exotic species from the rare slope forest community as well as the floodplain along the river.

The lowered river level and less frequent inundation of the floodplain resulting from the dam, historic navigation channel maintenance, unnatural flow management practices, and upstream water withdrawals have, I believe, altered the floodplain community in a detrimental way. The floodplain is dry too much of the year so upland species have moved in. For instance, naturalized sabal palms (*Sabal palmetto*) that normally occur near the coast where water levels are relatively stable and the state-endangered lanceleaf trillium (*Trillium lancifolium*) that normally grows on slopes now are common in the floodplain. But what really concerns me is the infusion of species not native to the United States and highly invasive into the floodplain. Species such as *Nandina* (*Nandina domestica*), coral ardesia (*Ardesia crenata*), Chinese tallow (*Sapium sebiferum*) and privets (*Ligustrum* spp.) have overwhelmed the floodplain, which would not be the case if flood waters inundated the area more often and for longer duration. The city has been able to knock the exotic plants back with grant funding and volunteer sweat, but these plants continue to be a problem and seed source for us on adjoining private property that our grant funds don't allow us to treat.

Changes to the river and the flow regime have impacted not just the oysters in Apalachicola Bay, but riparian areas and human communities all along the river. There are potential economic impacts, such as to the honey business that depends on our native tupelo (*Nyssa* spp.) trees whose decline has been documented from changes in river management. Botanists from around the world know of the high biodiversity of the Apalachicola region and even in Chattahoochee we get visitors from England and Australia who have travelled specifically to see our unusual plants. The same can be said for almost any taxa group—invertebrates, reptiles, salamanders, etc. Science tourism may suffer if our natural communities decline.

Thank you for doing all you can to return a pattern of more natural flows and a higher volume of water to the Apalachicola River, floodplain, and bay.

Respectfully submitted,

LEIGH BROOKS

THE APALACHICOLA RIVER SYSTEM

A CLOSER LOOK

With so much attention being focused on the Apalachicola River and Bay and considering the political game that commercial traffic has always been at play on this issue, the following history calls out to be told.

Before all the old timers who remember a much different river system have passed on and the sources of years of degradation have been suppressed or unacknowledged, let these words remain. For to celebrate the system as a unique and wonderful treasure is akin to placing a crown on a once beautiful and innocent princess after she has been repeatedly raped and tortured and now facing the possibility of continued abuse.

Had you not know her before; you might be forgiven for not recognizing her pain. You wouldn't see the bends that were cut from her body; you might not know that the wide and shallow body was once deep and narrow. The sand bars that you take to be normal, isn't. They are dredged spoil sites. There are 140 of these sites in addition to 28 dike fields, some of which tend to redirect the flow of water and straighten the river. And across from every one is an eroded bank. Many are on point bars some of which direct the force of the water to the neck of a bend on the opposite bank, thereby severing the bend in time. The practice of mechanically cutting bends from the river was stopped years ago but like the old saying goes, "there is more than one way to skin a cat."

Dredged spoil was first piped onto the floodplain, then on the banks of the river and going from bad to worse, the 140 spoil sites were allowed by DEP to be placed within the banks of the river and in open water sites. During the past 70 years, in excess of one-half million cubic yards of spoil was dredged annually from the river and not removed from the system. Much of the spoil was dredged repeatedly as it was washed off the spoil sites during the high water season and back into the main channel. Repeated dredging changes course river sand into silt which is a

greater concern as it is more dense and acts as a better seal, changing the composition of the bottom of the river, creeks, sloughs and even large areas of the floodplain. Native plant species are negatively affected by the sand and silt which affects the land animals habitat. A fairly recent study stated that forty percent of the tupelo trees had perished due to the drying of the floodplain and the change in soil composition. The Apalachicola River System contained the most diverse plant and animal species in the Nation. Off river lakes and ponds have filled with sand and silt due to dredging. The mouths of all sloughs are plugged. The veins that carried life to this vast floodplain for thousands of years are blocked. The tributaries and distributaries present forty years ago and on which rookeries of Ibis and Heron nested in the spring are no more. The mouths of many of the sloughs are no longer visible from the river as they have filled and now support trees and other vegetation. Spoil sites are located adjacent to or just upstream of the majority of all sloughs, assuring that sediment will erode into them. Also assuring that more water will remain in the river. For commercial barge traffic?

There have been many studies done on the river (so easy to ride in a boat) but of the swamps and floodplain, only what can be determined from aerial survey. We contacted the Apalachicola Research Reserve and only a few pages exist. These areas are so diverse and full of wonder and not a little mystery.

Prior to the floodplain being degraded, otter and alligator dens were located well off the river where they lived during the seasonal low water. The big turtle inhabited water holes around old tussocks. Areas where people seldom went. Where every tree exhibited it's own personality and in the spring, a chorus of insects and land animals let their voices be heard. A basket half full of crawfish could be caught in half a day. The abundance of crawfish was never acknowledged even though documentation was turned over to the agency charged to protect. The crawfish are an important part of the food chain for many land and aquatic animals. This year, after three years of being forced to stay underground due to the absence of seasonal high water, very few survived to come fourth when water did arrive.

Through out the years, the politicians, the Corps of Engineers, the Florida Department of Environmental Protection, and other agencies seem to have been playing a macabre game concerning the Apalachicola River System at which the System has continued to loose. DEP stopped the COE from disposing dredged spoil in the floodplain but allowed them to deposit it on the banks of the river. Later it was decided that the most environmentally sound way was to deposit it within the river banks and in open water sites which only increased the speed of filling in of sloughs from far out in the floodplain to the mouth at the river. Across from the spoil sites, the opposite bank erodes. At some spoil sites the spoil site has caught up more sediment to the point that the site has enlarged in width to reach the middle of the channel. A boat trip down the river from Blountstown to the mouth of the Chipola River when the river gage at Blountstown is at five feet or below will reveal some the major damage suffered by the system. In a 1986 study conducted by the Florida Fish and Wildlife, it is stated that dredging practices have created twenty-five miles of sand banks that game fish do not inhabit.

For years DEP permits issued to the COE contained requirements such as the opening of Point-Poll-Away, Corley Slough and bends to be reconnected. A play was made at opening Corley Slough but the prior placement of Sand Mountain beside the mouth of the slough insured that it would continue to be blocked. A very large amount of spoil was also placed in the mouth of Virginia Cut.

For a period of eleven years, spoil was allowed to be piled in large quantities along the river then pushed back into the river with bulldozers. This was called "mechanical Redistribution." The practice was no longer allowed in the 1999 permit.

As more spoil was dredged, more had to be dredged to ensure a channel for the few barges going to or from Alabama and Georgia. A few barges operated from one and one-half mile below the dam at Chattahoochee and back through the dam to upstream points. Yet the remaining 105 miles of the river was "maintained" that accommodated very few barges annually during the last 20 years that maintenance was conducted. Also of concern was the cargo hauled which included fertilizer, jet fuel, and other farm chemicals (not identified).

Loaded barges have an 8-9 foot draft. Stranding on sand shoals was fairly frequent and the tugboat operator would have call to the dam for a release of more water. Barges, while trying to maneuver around a bend would crash into the bank several times in order to make the turn. The cost of shipping on the Apalachicola River has been determined to be the highest in the Nation.

DEP is now on the verge of issuing the COE a permit for snagging the river and at the same time a Water Quality Permit and an Environmental Resource Permit. The water quality permit was denied in 2005, which effectively prevented the COE from maintenance work on the river. The reasons given in the denial have not been

resolved to date. The COE is already mandated by Congress to maintain a 9 by 100 foot navigation channel (should have been de-authorized years ago) and by issuance of these three permits; it will all begin once more. The reason given by the COE in its request for permit is that "emergency parts or equipment may be needed upstream that could not be moved another way." We are living in the year 2013, not 1713.

The practice of "Snagging" the river, which was done annually just prior to dredging, is destructive in many ways. The bottom of the food chain is the microscopic organisms that live on the snags. Snags are protection areas for juvenile fish, create shade which cools the water in the summer, they slow the flow of the water, some are inhabited by fish that are territorial, they serve as sunning spots for turtles and alligators and as fishing platforms for water birds. Many rivers across the nation, including the Chipola River have never been snagged and recreational boaters continue to use them.

Restoration projects conducted by the COE and a few by other resource agencies have seemed to be another part of the game. Many millions of taxpayer dollars have funded ill-conceived and reckless "restoration" projects on this river and only one a partial success. Many have caused further harm to the system in part by the failure to understand how the system worked. An example is the fact that a swollen river will cause tributaries to act as distributaries until the floodplain has filled and the water in river and floodplain is equalized. When the water level in the river recedes, distributaries will act as tributaries until the water in the floodplain has emptied. A good example of this is Battle Bend at river mile 26.

Battle Bend, measuring one mile, was mechanically severed from the river in the 1960s. Spoil was repeatedly placed in the upstream mouth in an effort to prevent water from the river entering the bend. An adjacent upstream spoil site was extended across the upper mouth and in a final effort, a borrow pit was dug and an earthen berm placed across the inside mouth.

In 2008, a restoration project was started by another agency at Battle Bend whose stated purpose was to increase fish habitat by dredging a nine-foot deep and two hundred feet long wide and one thousand feet long at the lower mouth of the bend. First came the engineering and then a study to determine where the sand came from that had continued to accumulate at the mouth of the bend, the COE had dredged spoil from the mouth several times over the years but it just as quickly filled in. When the project was completed except for the plug at the mouth, which was the last to be removed, the contractor left the area. When questioned, the head of the project stated that the contractor had "inadvertently" left the plug at the mouth but was going to come back and remove it. They might possibly have realized that it was that old swollen river syndrome again and that river water was entering the bend and exiting sloughs inside the bend and on into the floodplain and in the process the heavy load of sediment in the river water created the plug at the mouth of the bend and would continue to even with the dredged channel that had just been dug. The plug still remains with a stand of willows growing on it. At this time the project was identified as Phase one and Phase two came into being that was to be the creation of two inlet channels at the upper mouth in the belief that water would enter, flow through the bend and prevent the plug forming in the lower mouth. Phase two was completed and water from the river did flow into the channels but failed to enter the bend as sediment that had been placed at the upper mouth to stop the water entering had filled the upper one-third of length of the bend beginning near the ends of the inlet channels. River water now flows into the two inlet channels at the upper mouth but is diverted into the floodplain by the spoil that exist further inside the bend. The flow runs on to the mud flat that runs parallel to the river from Florida River south to Brushy Creek. This project cost taxpayers in excess of two million dollars, failed to achieve its stated purpose and caused more harm, which harm could increase in the future.

Water that has been arbitrarily withheld upstream from the Apalachicola River (and much of it wasted) resulting in harm to the River, floodplain and Apalachicola Bay is no greater environmental crime than to allow the COE back in the system. As for Restoration Projects; the only way the system can heal is if it is left alone to heal itself. Any effort made by people would have to be periodically maintained. A slough mouth that is opened today would need reopening in another three or four years. The overload of sediment in the system will be a problem for some time. After so many years of abuse, it will take many years to heal.

Two projects that might feasible be accomplished without further harm and to help the system is to make a serious attempt to reconnect Battle Bend to the river by excavating the spoil in the upper one-third section and block the water from entering the cut section. The second is to develop some measure to prevent the increasing amount of water from entering the Cut-Off at river mile 41½. The spoil

site on the opposite bank, measuring a mile has directed the flow of water to the mouth of the Cut-Off that over time has widen and the quantity and force of the water has eroded the banks on the Cut-Off to the point that houses and two roads are endangered. There are major sand shoals just down stream on the Apalachicola River from the Cut-Off, which tends to prevent the unimpeded flow of water in the river and helps to increase the flow into the Cut-Off.

If the Apalachicola River System is important to you, be aware of its history and the very real possibility that abuse (from what ever source) of the system could very well begin again and you might be able to prevent it.

MARILYN BLACKWELL

Dear Senators,

As tourists from Gainesville, Florida, we have made several delightful and memorable visits to Apalachicola and surrounding environs. We visited the town, stayed in bed and breakfasts, and browsed the museum. We kayaked with the Riverkeeper one windy (and sunburned) afternoon on the bay where the river flows into it, ate a delicious oyster dinner, and learned about the oyster industry and its ongoing plight.

There is no better spokesman for the river than Dan Tonsmeire, but his job has been a difficult one. The stress suffered by the bay was evident long before the BP oil spill. Alabama and Georgia, and Atlanta in particular, drain the river of vital water long before it reaches Florida. Our state has had far too small a voice in determining the fate of the region downriver, as cities and agriculture grow and place an ever greater burden on the river. It is time now to support the industries served by Apalachicola River and Bay, and the beautiful environment itself throughout that region.

Please help maintain the flow of our river and the health of the Florida environment and industries. This is a cause worth fighting for!

JEFFREY P. SHAPIRO, PH.D.

Here's what Georgians want Floridians to know: In the past ten years our water usage has actually dropped by 14–18 percent even though our population has increased. You can check that fact with PolitiFact. We have instituted so many water conservation measures that the water utilities have had to increase their rates just to make budget. We have some of the highest water rates in the country. Again, you can check that statistic on PolitiFact. My average monthly water bill runs \$130. Meanwhile, we do not see the people of Florida and Alabama instituting any water saving measures. On a recent trip to north Florida I saw many people watering their lawns. It's true that people in Atlanta once did that too, but you NEVER see it anymore. It became illegal back in 2007 and has been strictly monitored since 2009. Ever since it became legal again, with strict rules, people won't do it because it is too expensive and the fines for forgetting the rules are too high. Here is another fact for you from the USGS. Florida is the 4th biggest user of water in the country. Alabama comes in at 14th and Georgia at 29th. Alabama, with a population that is half of Georgia's uses almost twice as much water each day. Florida uses almost 4 times as much water as Georgia. People either fail to realize, or choose to ignore, the fact that over 80 percent of metro Atlanta is on sewer. That means we withdraw the water from the system, use it, clean it, and then put it back into the system. During droughts we cannot even use gray water (water from washing dishes, clothes or from the tub) to water our outside plants and gardens because the devotion to getting water back into the river is so crucial. (Plus, you could get a \$1,000 fine for doing that) The real "culprits" of water use in the Chattahoochee/Flint basin are the farmers and power plants. The water they withdraw is lost through evaporation and doesn't go back into the river. We are not sure why the people of Florida choose to ignore these facts. We drive your local economy through tourism and then you repay the favor by wanting to prevent us from using the water that falls as rain on our streets and boils forth from the springs in our backyards. There is something wrong with that.

MARY JANE GORDON

Our livelihood is just as dependent upon the health of Apalachicola Bay as if we were commercial fishermen. As adventure tour guides and artists, we rely on people that come here from all over the world to visit our unique and incredibly rich estuarine habitat. It is what attracted us to this area over 23 years ago and what keeps

us here today. For many years we have told our guests, “Yes, Apalachicola Bay is very healthy but also very fragile.” Now Apalachicola Bay is in dire straits and soon we can no longer boast health due to the imbalance of freshwater coming down the Apalachicola River. I don’t carry crackers and hot sauce on my tours and hog oysters at sunset anymore; now I say, “We are hopeful that the health of Apalachicola Bay and the Gulf Of Mexico is as important to our leaders as it is to you and me!”. This crisis is now in your hands and on your watch. Please choose wisely for the sake of our shared generations to come.

DAVID HARBAUGH AND BETH APPLETON

I am David McLain, a U.S. citizen voting in Franklin County, Florida. I have been closely involved in the water management dispute between Florida, Alabama, and Georgia for over 15 years in a variety of roles, paid and, lately, as volunteer and community advocate.

First, I thank our two Florida Senators, Sen. Nelson and Sen. Rubio, for their sponsorship and informed leadership of today’s Field Hearing of this Senate Committee. As all who were present will testify, the meeting spaces were jammed to overflowing with concerned citizens whose very lives and futures are dependent on subsequent actions taken by our Federal Government. As a water management dispute of over 22 years of failed negotiation, mitigation, and litigation directly involving three states, an equitable allocation of the freshwater flows of the ACF Basin will not be resolved without active Federal intervention in this interstate “water war”.

Second, it is entirely too easy to blame the Federally recognized catastrophic failure of the Apalachicola fishery on the volume of freshwater flows downstream during recent drought conditions. Drought is undeniably an unfortunate recurring event in Nature. But I must assert as forcefully as I can—the severity and duration of any drought are due to the actions of Man, or Man’s failure to act. Significant and mandatory restrictions on water consumption, plus aggressive repair of water-handling infrastructure, and implementation of restrictions on permitting of water use are critical management actions during any drought.

Finally, I would argue it does little good to vilify the Corps of Engineers, the farmers of the Flint Basin, or the citizens of Atlanta while we seek a rational resolution of this shared problem. I might even go so far as to say, we will never reach a sustainable solution for adequate freshwater flows to a healthy and productive Apalachicola Bay until we help Atlanta and the south Georgia stakeholders find a mutually acceptable solution to meeting their water needs. A Basin-wide agreement has been reached in similar circumstances—such as the Delaware Basin Regional Authority. Shared gain or shared pain.

PS: The most “Endangered Species” in our Apalachicola River and Bay is a two-legged variety. . . .our 4th generation Apalachicola Oysterman.

Please add to my submission for the record (see e-mail below) due to subsequent actions reported in the Tallahassee newspaper this morning (8/14):

Florida’s Governor Scott announced his intent to file an original action suit against Georgia in the U.S. Supreme Court in September of this year. He obviously did not hear the urgent plea by the seafood workers representatives that time to correct deficient freshwater flows is almost gone. An original action before the Supreme Court is YEARS away from resolution, even if Florida’s suit is eventually upheld. Significant testimony at the Field Hearing yesterday pointed to the official finding by the U.S. Department of Commerce of a “fishery collapse” in Apalachicola Bay. A point of no return, the “tipping point” beyond which recovery of the Bay may be impossible is months, not years, away. Without assured freshwater flows the health and productivity of the Bay will not be restored. No amount of BP oil spill fines money can restore our Bay absent freshwater flows.

Gov. Scott’s return to the 20+ years of failed litigation is hard to understand. An original action before the Supreme Court will undoubtedly delay and defer promising alternatives such as a discretionary ruling by the U.S. Corps of Engineers in a revised Water Control Plan, or any possibility of an amended Water Resources Development Act passing out of the U.S. House in the near-term. Meanwhile the clock is ticking and continuation of the catastrophic, unprecedented low freshwater flows is all but assured.

Our only hope, in the face of this action by the state of Florida, is that our Federal elected officials will assert rightful jurisdiction over this interstate water allocation

dispute and pass Federal legislation to ensure an equitable allocation of the waters of the ACF Basin.

DAVID McLAIN,
Franklin County Florida Representative.

Please reestablish a freshwater flow to The Apalachicola Bay! This is one of the most ecologically diverse bays left. We need this area as part of our food chain, as without it we will eventually be greatly affected as humans. The tourism and fishing industry has also been drastically affected. Without freshwater, the ocean by surrounding islands is not as clear—our family used to go here yearly but we don't as much now due to the water clarity. This is a vital area that deserves to and must be protected. Establish the freshwater flow and use restrictions in Atlanta and other cities to make them responsible for the water they use and not just waste it! The people of the forgotten coast and millions of others across the country are begging for you to help!

KRISTINA ILGNER LAMONS

The Apalachicola Bay Chamber and its 400+ members urge Congress to act on our behalf. For decades the U.S. Army Corps of Engineers has starved the Apalachicola River and Bay of the freshwater that it needs to survive. The Corps has kept water flows at level to ensure that users at the top of the system in Georgia get the majority of the water. This is now killing Apalachicola Bay and the Apalachicola national estuary, one of the last great estuaries in the world. Florida has conserved this resource and should be rewarded not punished.

Almost a decade ago the U.S. Army Corps determined 8,000 cfs would keep the three endangered species alive in the river system. We protested that this would be detrimental to our ecosystem and our economy. That has now occurred. This man-made drought is killing our bay and our economy. The Apalachicola River and Bay is the life blood of our economy and the economies for towns up and down the system in Florida. It is the economic artery that connects us to the world and sustains our livelihoods. We have been responsible stewards of the system and deserve an equal share of the resource we allow to flow unimpeded.

Congress must act now to pass legislation requiring the U.S. Army Corps to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and reestablish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system. Please act on our behalf.

ANITA GROVE,
Executive Director,
Apalachicola Bay Chamber of Commerce.

It seems we human beings are intent on destroying our life sustaining ecosystems and so far, the present on going destruction of Apalachicola Bay is a good example of that.

Please help stop this destruction—this one is in your hands—you can do it!!! For our children do it, for their children do it!!!

You know well the extreme negative consequences of letting the Apalachicola Bay die. It's not just about oysters and the people who make their living directly on the Bay.

Be smart, be brave, save the "Bay"!!!!
All the best,

FRED & MARY VOGT

Dear Ms. Gibson and Mr. Houton:

My wife and I are residents of Franklin County. We would like to offer our public comment concerning the Save the Apalachicola Bay congressional field meeting held last week.

Neither my wife or I are directly employed in the local fishing industry, but many people in the local community are so employed and the fishing industry is crucially important to both the community and the county here. The oyster fishery in particular, outside of the harvest and sale of oysters, provides important economic benefit by being a major local draw for tourism in the area. Apalachicola Bay-tonged

oysters, harvested “the old-fashioned-way” make our community a target destination for both American and international tourists alike.

As important as the local economy here is to us, presumably those people arguing for the ever increasing siphoning of water off the upper tributaries of the Apalachicola River in South Georgia, would argue that in terms of economy, their economies are much larger, employ more people, and they have more voters, so therefore, why should a comparatively small community in Franklin County, Florida have any say whatsoever about the issue, nor for that matter, why should downstream areas receive any water at all from the Apalachicola, especially seeing as good agricultural freshwater is being wasted going into the sea. Stating this is rather harsh view of reality. But in terms of money and people, Georgia clearly has Franklin and neighboring counties beat. Presumably this harsh reality is why the Apalachicola water wars yet still rage today, unresolved after so many years. There is however a bigger issue.

Sometimes our area is labeled the forgotten coast (as these lingering water wars might seem to attest), but some of us here prefer the name the wilderness coast. We are entirely surrounded here by contiguous Federal and state protected lands including: St Vincent’s Island National Wildlife Refuge, Julian Bruce St George Island State Park, Tate’s Hell State Forest, St Marks National Wildlife Refuge; the Apalachicola National Estuarine Research Reserve and Apalachicola National Forest. The combined areas of these contiguous protected lands is well over 1MM acres. If these lands happened to be so designated, they would comprise the 5th largest National Park outside of Alaska. The only thing our area is not protected for is sustained water flow from the Apalachicola River.

In the western states, the once mighty Colorado River has been similarly diverted and siphoned off to satisfy the ever increasing water demands of commercial agriculture in Arizona and California and the metropolitan areas surrounding Los Angeles. Except in rare years of heavy Colorado snowpack, water from the Colorado River now never reaches the ocean. We ask Congress—is the eventual and ultimate fate of the Apalachicola River to be that of the Colorado? The Apalachicola is not a small river. It is the second largest watercourse on the U.S. Gulf Coast next to the Mississippi and it comprises largest drainage area in the U.S. southeast. And yet, owing to ever increasing upstream siphoning, the Apalachicola river may eventually, without action by Congress, one day no longer make it to the sea.

Is this something Congress would, by its inaction, actually allow to happen? Would Congress similarly allow the draining of waters from a National Park? The analogies are clear. Congress’ inattention to the ever increasing diversion and siphoning of the Apalachicola River water to satisfy metropolitan and commercial agricultural interests in the State of Georgia is akin to Congress permitting Everglades National Park to be drained in order to supply metropolitan and agricultural areas around Miami, or the draining of the Yellowstone River from that park, or for that matter, the additional diversion of the Colorado drying up the Grand Canyon. Clearly this is a fate for the Apalachicola River that Congress should not want to deliver to future generations. Action is needed.

We respectfully request that Congress act decisively on this matter.

DR. JAMES AND SUSAN MOTT

I support the Army Corp sustaining river flow in the entire system flowing into the Apalachicola River. Commerce on and because of river flow is vital to the economy of Florida.

DEBBIE MCKNIGHT, RN

Please enact positive legislation to save/protect the waterways of the Apalach. It must survive and thrive. Thanks for listening.

SUSAN B. EMRICH,
Chief Operating Officer.

To whom it may concern,

The Apalachicola River systems is one of our nations precious resources. Please fund the renewal of management of the dam system on the river. The economic im-

pact on those who depend on the downstream water flows is devastating those citizen who rely on this ecosystem for their livelihood.

Thank you,

JOHN
JOHN C. DEVLIN, PMP

Please let the U.S. Senate Committee on Commerce, Science and Transportation hearing record know that the Bay County community needs the freshwater to continue flowing along this river system. This supports the ecosystem that drives so many different industries in our region. Commercial and recreation fishing provides jobs and tourism dollars to the community we serve. Those jobs and dollars are reinvested in our community and support the folks who live in our community.

JEREMY HINTON, CPA,
SVP, Chief Financial Officer.

INNOVATIONS FEDERAL CREDIT UNION

Please do what's best for our Apalachicola Bay/River and require the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

DAVID SOUTHALL,
President/CEO.

INNOVATIONS FEDERAL CREDIT UNION

Lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

Please act now to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

Respectfully,

JASON WHITAKER,
Panama City, FL.

Please pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receives the freshwater flow they need to support, restore, and re-establish healthy populations of fish and wildlife!

The lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

Our Northwest Florida region is dependent upon natural resources such as the Apalachicola Bay/River for the ever precious oyster industry. The negative effect on this region's economy is certain to be catastrophic to our fishermen/oystermen, our restaurants and ultimately this region and the State of Florida's number one industry, tourism.

Thank you,

TIFFANY DESPARD, CPA, MBA
Carr, Riggs & Ingram, LLC.

Our Northwest Florida region is dependent upon natural resources such as the Apalachicola Bay/River for the ever precious oyster industry. Lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy river, floodplain and bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

I am calling on Congress to act now to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation-based economy that relies on a healthy natural system.

PAMN HENDERSON,
Commissioner,
City of Callaway, Florida.

This is a real issue that impacts real people right now. It is not one to debated, researched, publicized and played too. All that has been done and resulted in lost jobs, broken families and deteriorating natural resources. Please be the leaders we so desperately need and resolve this problem now!

The problem is not really complicated, though it involves many and has far reaching impact, it is really simple. Establish reasonable water flow, protect that standard for the future and then stand back and watch the local parties move forward within that framework.

RICK PETTIS,
Planning Director, AICP
David H. Melvin, Inc. Consulting Engineers.

Ms. Gibson,

Given recent declarations and notifications regarding the above referenced river system, we offer the following comments.

The current crisis in the ACF river system—the call for legal action, not discussion—is portrayed in some quarters as if the State of Florida escalated a 25-year conversation into a battle. We contend, as professionals who have worked in natural resources throughout the southeastern United States and have witnessed a number of “wicked problems,” that the State of Georgia and metropolitan Atlanta are the aggressors here and escalate the conflict on a daily basis by the solicitation of residents, new businesses, and other water consuming entities.

We see Congress as one of the governmental keepers of a civilized society, one in a collection of elected and appointed bodies responsible throughout the Nation and the individual states for setting policies to regulate and manage natural resources. Sometimes, in a case where human use and need for such resources cross state lines, the situation begs for a national level solution taken by a Congress that aims to resolve—not politicize—such conflict. Certainly the time has passed for the regional solutions for the use of the Apalachicola River system, at least as proffered by state governments time and again since the mid-1980.

At face value, it appears that the problem focuses on how to divide the water between the people and businesses in Atlanta and the people and businesses downstream in Georgia, Alabama, and Florida. We suggest that the issue is one of expectations—can a metropolis expect to continue unabated growth and have unlimited access to the public water supply under the generally accepted principles of reasonable use in Eastern Water Law; must all downstream users continually adjust direct and indirect dependencies on water to the limitations imposed by upstream cities? This is not a voter driven issue; this is a resource management issue that must be balanced for the entire river system.

Sincerely,

LINDA LAMPL
TOM HERBERT

Good Morning—

Our oyster, shrimp, crab and fish populations in the bays of our area (Apalachicola, Chattahoochee, etc.) have been devastated due to a lack of freshwater. This has cost the economy in our area to be on the decline, much higher than other regions, because there are so many families who depend on the rivers and bays for their livelihood. It has affected the recreational fishing industry, which is well-known throughout the eastern part of our country, to be negatively impacted. Apalachicola oysters are known throughout the country for their outstanding taste and the quantity available but this is on the decline due to the negative flow of freshwater into our bays and rivers.

I am asking Congress to pass legislation to require the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint River System to ensure these rivers and floodplain receive the freshwater flows needed to support and re-establish healthy populations of fish and wildlife as well as help the economies in these areas to once again prosper due to a healthy natural system for years to come.

Thank you for taking the time to read this e-mail.

SANDRA HIRTH,
Assistant to the City Manager,
City of Callaway, Florida.

Dear Ms. Gibson,

This has been an ongoing issue for better than a decade, if not almost two decades. It seems that in two decades, Atlanta could have built a new reservoir and could then allow more water to be released into the watershed. The Federal Government has always had issues with protecting the environment. I have had several projects, that were halted or postponed due to the protection of (just they easy ones I remember):

- Harper Beauty (a flower)
- the Panama City Crayfish
- the st. andrews beach mouse
- the perdido key beach mouse
- a bald eagle
- indigo snake
- ground owl
- gopher tortoise

As we are seeing along our gulf coast not only will some of our wildlife suffer, but the lives of its residents are now beginning to suffer. Instead of making our citizens reliant on handouts from the government (food stamps, welfare or other means to replace the pay for those that live along the coast), it would seem it is in the best interest for the Federal Government to step in and mandate a larger release of freshwater from the areas around the watersheds that flow to the Apalachicola basin and to the gulf. If the government would step in and act as a parent to the three states (Alabama, Georgia and Florida), maybe some of this would get solved before:

- people lose their means of making a living
- plants and animals whose habitat requires freshwater become endangered or extinct

Sincerely,

ARTHUR HOOKS

Please get our Senitors and Congressmen to plead our case for Core of Engineers to open up our freshwater supply and flow to grow marine life. Thank you. We are counting on them.

KEN SANDEL

Dear Ms. Gibson:

I add my name to the list of those who have deep concern about our river, our cities, our region and the way the United States protects our most precious natural resource: our waters. Our "water war" as some have named it, is small in compari-

son to what “wars” will be waged in the future as this resource is squandered. I believe that the steps needed to save the Apalachicola should model how our country plans to protect our waters in the future. It about far more than the oyster or even other marine life—although the ripple effect is huge. It is about small communities survival when big city wants something they have and need. Can Atlanta not dig deep in to the granite and access an aquifer there? Is the cost of that so much that they can destroy other areas for their needs? Are folks along this coast going to be able to point to our very own government and say, “They did not care about our way of life, our homes and our livelihoods?”

I did not grow up here, I moved here because this was a beautiful and pristine place. People visit here to escape the big cities like Atlanta. Life is good here. Please consider the minority in this struggle for existence. The oyster industry is getting the focus but it far bigger than the lowly oyster. At least it is to me and mine.

Sincerely,

DENISE BUTLER,
Agent,
The Butler Agency.

Hello and good day !!!

You have heard all the different testimonies on why this is so important—not only for now—but for the future generations. . . . What are we leaving for them?

Portion taken from our neighboring county to the west—Panama City area

“Our Northwest Florida region is dependent upon natural resources such as the Apalachicola Bay/River for the ever precious oyster industry. The negative effect on this regions economy is certain to be catastrophic to our fishermen/oystermen, our restaurants and ultimately this region and the State of Florida’s number one industry, tourism.

Apalachicola Bay/River should be viewed by all as a manufacturing facility. It produces a sustainable product that is well known and is shipped nationwide.

Lack of freshwater reaching the Apalachicola Bay has caused the Bay’s oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulfs recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay. Bay County—Chamber of Commerce

I’m sure you have several (hopefully hundreds) of similar responses. I saw this and liked it. Only copied a portion of their memo.

Very well stated even though they have their own resources—but reading the last line above—we have one of the LAST pristine estuaries in the U.S.—most of the rest are polluted—we efforts to restore—let’s not wait till that happens the Apalachicola River and basin.

In the circle of life—we (mankind) are the ones that can make a difference—nature tries it’s best—and we are destroying nature.

Thanks to all that are supportive and trying to make this happen.

I’m an environmentalist first—local homeowner—retired from Atlanta (they need to fix their problems and not use our water—that causes us problems) and a local Realtor . . . this does affect our business—which is tourism, fishing, etc, then people wanting to turn a vacation into a lifetime . . . buying property . . . See the circle ??

Thanks for your time,
CA:)

CHERYL ANN GRIFFIN,
Realtor.

As a Franklin County resident, I am thankful that Senators Nelson and Rubio expressed their concern for the natural and human resources in Franklin County by attending the Congressional Field Hearing on August 13. It is critical that the natural system and the unusual human community that has been developed on the shores of the Apalachicola Bay be protected. I understand the difficulty in moving political processes to insure the continued integrity of the Apalachicola River and Bay. We must find a way to maintain our needed freshwater flow from upstream users and decision makers.

Our future in Franklin County rests with your ability to provide adequate legislation to protect the flows necessary for the life of this river and estuary. This will require Congressional action and authorization for the Army Corps of Engineers to

manage the river without detriment to Florida. We have been good stewards of this area and we hope you will be good stewards of this national treasure. Please do whatever it takes to insure adequate freshwater in the Apalachicola River and Bay.

Very sincerely yours,

PATTI MCCARTNEY,
Saint George Island, FL.

Please help to require the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

PAMELA OSBORNE, RN, BSN, MSM
Clinical Supervisor,
Bay Correctional Facility.

Ms. Gibson,

I am concerned about the Apalachicola basin. We have been fighting the water issue for years and to no avail. The fishing/oyster industry is vital to our country and cannot be ignored. Just letting the upper entities drain all the water they want is not a solution. They do have other options, the river does not. The Army Corps must be given the authority to operate the river with adequate freshwater to the Apalachicola basin.

Thanks you for your time. I look forward to seeing a positive move.

VIC JONES,
Manager, Coal Feed Systems,
Merrick Industries.

Apalachicola oysters are some of the finest in the world, but they are in danger of being wiped out because water naturally intended to reach Apalachicola Bay is being diverted for residential use. Please stop this travesty. Once the ecosystem is destroyed it will be too late. Please act now while there is still time to save this pristine and unique environment.

PATSY ROBERSON
D. Stephen Foster, CPA, PA

Stop restricting the flow of the river into Florida, it is damaging our eco system and out lively hoods.

JOHN DUNAWAY

I am very concerned about our oyster population in the state of Florida. Please do your part to keep freshwater flowing into Apalachicola Bay. We need our oysters, shrimp, crabs and fish populations to stay self-sustainable. We do not need to begin a multi-million dollar program when we can save our bays now! We can prevent this: <http://nynjbaykeeper.org/resources-programs/oyster-restoration-program/>

Thank you,

JENNA LEIGH BURGER
Restaurateur, former Vice-Chair of the Greater Fort Walton Beach Chamber of Commerce, former Vice-Chair of the City of Fort Walton Beach Community Redevelopment Agency, current Junior League of the Emerald Coast Historian

Lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

Please act now to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows we need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

Thank you for your support of this important issue.

CAROL ROBERTS

I encourage the passage of legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

Thank you for your time,
Jennifer

JENNIFER CONOLEY,
Economic Development Representative,
Gulf Power Company.

While we cannot control Mother Nature, we can certainly control the equitable allocation and flow of waters into the Apalachicola-Chattahoochee-Flint river system.

Action is needed now to authorize the Army Corps of Engineers to operate and better manage the Apalachicola-Chattahoochee-Flint river system. Dead oysters beds and unemployed fishermen in Gulf-Franklin Counties on the Gulf of Mexico are proof that current policies—or the lack thereof—are not working. We are calling upon Rep. Steve Southerland and our Florida delegation to spearhead efforts to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation-based economy that relies on a healthy natural system.

JAMIE SHEPARD,
Democratic Candidate for
Florida House of Representatives, District 6.

Lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life. The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

Call on Congress to act now to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system. Submit your comments by e-mailing the following:

ANNIE JORDAN,
Office Manager.

Dear Senator Gibson [sic]: please consider the following documentation in your decision making process and help save the Apalachicola River that so many people and so much wildlife depend on for survival.

Thank you,

BARBARA RUTHERFORD-DORRIS ,
Cape San Blas, Florida.

Greetings.

It is my honor to serve as chairman of the Panama City Beach Chamber of Commerce. I am sending this e-mail in support of the Apalachicola Bay/River fishermen and businesses and in support of Gov. Scott's decision to take action against the state of Georgia over their consistent abuse of Northwest Florida water rights.

I am also a local restaurant owner who regularly purchases oyster from the hard working families on the Apalachicola Bay/River. I have seen the steady decline in the quantity and quality of the product that has been delivered from the Apalachicola Bay/River. I encourage Gov. Scott to take any and all action to protect our valuable God given resource.

Thank you.

DERRICK BENNETT

I would ask that you please endorse the Army Corp of Engineers to operate the Apalachicola-Chattahoochee-Flint River system to protect our waters and the oyster/seafood industry. Your attention to this matter would be greatly appreciated.

VICKI R PAUL LPN
Bay Correctional Facility
Medical Department

Ladies & Gentlemen,

I grew up enjoying the Apalachicola River system. I remember when the water flow was abundant and never thought we would encounter the current problems of today. I can remember as a small boy watching the barge traffic engaged in commerce traveling up and down the River. Unfortunately, the Corp stopped maintaining the channel and commerce on the River has stopped and the Bay system has suffered great damage to a once great eco-system. Today in some places on the upper part of the River, small boats encounter problems from running aground. Larger boats and barges are out of the questions. What a shame that a great natural resource has been forsaken for misplaced priorities to upstream interest. Consideration needs to be given for all to enjoy this "Jewel". Please take action to allow the Army Corps of Engineers to resume the operation of the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola, Floodplain and Bay receive the freshwater flows needed to restore this area.

Sincerely,

WALLACE C. FRENCH

Please take necessary Congressional action to allow, and indeed require, the Army Corps of Engineers to supply a seasonally-appropriate, dependable and sufficient flow of freshwater from the Flint-Chattahoochee-Apalachicola river system to Apalachicola Bay. As was brought out in testimony at the hearing, the health of the bay and estuary requires a natural flow of freshwater—not just for oysters in the Bay, though that is important, but for the whole estuary ecosystem that supports fisheries and natural communities throughout the Gulf of Mexico. We can think of the oyster population as a sort of "canary in the mine"—if oysters cannot thrive, then the ecosystem services that the whole river/estuary/bay system supplies are in danger. The Atlanta metropolitan area can certainly do much more to use water from the system economically than it is doing now.

RICHARD S. HOPKINS

It is impossible for individual states to manage interstate resources without impacting the commerce of other states. The interstate waters of the Apalachicola River and its tributaries must be managed by an entity that represents the interests of all the states otherwise the state of Georgia will manage the resources of the river without any consideration to the rights of citizens in Florida and Alabama. Control of the Apalachicola River resources clearly must be managed by a Federal entity.

JOSEPH SCHUSTER,
President and Soil Scientist.

I have seen the decrease in river levels for the past several years due to upstream usage of water from the Chattahoochee-Apalachicola River. This has affected recreation use of the River itself. Also, lack of freshwater reaching the Apalachicola Bay has caused the Bay's oyster, shrimp, crab and fish populations to collapse, devastating the regional economy and causing untold harm to the many people who rely on a healthy River, Floodplain and Bay for their livelihoods and way of life.

The lack of freshwater also negatively affects the gulf's recreational fishing industry as many species are birthed in estuaries like Apalachicola Bay.

Congress must act now to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint river system to ensure that the Apalachicola River, Floodplain, and Bay receive the freshwater flows they need to support, restore, and re-establish healthy populations of fish and wildlife and the vibrant resource conservation based economy that relies on a healthy natural system.

W GREGORY FRENCH

August 22, 2013

U.S. Senate,
Committee on Commerce, Science, and Transportation,
Washington, DC.

Dear Senators Nelson, Rubio and Honorable Committee Members,

Thank you for coming to Apalachicola last week. Also, I sincerely thank you for choosing to serve our county in your elected leadership capacity.

It is without exaggeration that I am writing to tell you that Apalachicola Bay and its once-thriving communities are on the brink of total economic and ecological collapse. Jobs are vanishing. Houses are being foreclosed on. Families are suffering and children are living with relatives while fathers have left to find work elsewhere. These families do not comprehend how our government can give us idle excuses while a real environmental collapse is happening before our eyes. There is simply no time for more talking.

Regrettably, I am skeptical of real action by this Congress. It seems little gets done but excessive talking coupled with political party finger pointing. Please, please prove me wrong. I am seeking action, real action by elected officials. Fast action. The governors have let us down. They have not solved the Florida-Alabama-Georgia water struggles. Lawsuits take decades. Additionally, the citizens of the three states are inclined to share, but the special interest groups are controlling the people's water. I have slowly grown disenchanted with our leaders over this issue.

As a former small business owner of kayak eco-toursim/outfitter, I can confidentially tell you that a healthy river and bay equates to jobs. But, I will defer to the strong testimony from the generations of commercial fisherman to explain that to members. We are all seeking efficient action. This will require true risk-taking measures and steadfast leadership on your part.

Please contact me if further detail is needed.

Respectfully,

GEORGIA ACKERMAN

My Distinguished Colleagues, Senators, and Congress,

I could not let this opportunity pass by without expressing my passion for the Apalachicola Bay; most of you know me as a long time advocate for the bay, the seafood workers and the industry as I was the former Secretary/Spokesperson for the seafood workers, and a representative of the seafood industry from 2005 through 2009.

What many of you may not know or understand is why. My late husband; Vince Raffield was himself a seafood worker when we met, and for almost thirty five years I was married into one of the first families of seafood whose heritage, culture and traditions have included being some of the largest landings both commercial and charter in Bay, Gulf and Franklin Counties. He was of a fourth generation seafood worker, and very proud of his heritage. When we moved back to Franklin County, over ten years ago we knew he was terminally ill and this is where he wanted to live his remaining days.

His love and respect for the bay and the people who work it never ceased, and he was determined to bring attention to the plight of the seafood workers and the industry which he held so close to his heart. Unable to work the bay any longer and barely able to speak he asked that I relay his feelings, his concerns and be his voice in an effort to bring attention to what he saw as the beginning of an end to a vital seafood industry and decades of culture, heritage and traditions which would be lost by the wayside. Little did I know at the time, that not only would I do it for him, for my love for him, but I would resonate with that same passion with every fiber of my being for my own love and concern for the bay and the men and women who work it.

Whether in my writing, public speaking or general conversation; that love has never ceased, the concern remains as well as the passion to defend it, protect it and voice the genuine concerns and love for the bay, the people who work it and the industry which struggles to survive still today.

I beseech you on behalf of myself, my community, our industry, our workers, and in remembrance of my late husband; don't allow this injustice to continue. While many enjoy themselves recreationally, others here struggle just to put food on their tables and a roof over their heads and are paying the price for the luxury of that recreation. Species are dying, at risk of being extinct, marine life, aquatic foliage, and the ecosystem itself hangs in the balance on one side while greed and politics controls the other. What cost should be paid and by whom? When in fact the need of the many clearly should out way the greed of a few, we are being robbed of the vital nutrients and sediments that it takes to make the "World Famous Apalachicola Oyster" and to continue to have a sustainable seafood industry in one of the most precious jewels of Florida, Apalachicola and it is about time that changed.

Without your help it could mean the end of our industry, culture, heritage and traditions. Please support us and help us to continue to be sustainable and pass this on to future generations. Ask for the release of that water flow and ask those that are responsible to try to understand how they would feel if they were in our shoes?

When history is recorded on this will it paint a picture of compassion, working together for a balance of equality or will it paint a dismal picture of the end of an era and the beginning of the end for the ecosystems, environment, and economy tipped by politics and greed. I beg of you to please help save our bay, our future and restore our faith that justice will prevail.

Respectfully,

LINDA RAFFIELD

Please recognize that the diversion of river water for lawns and sport in Georgia is killing aquatic life and consequently destroying industry and livelihood in Florida. Thank you for your consideration.

Sincerely,

JIM PADGETT

Dear members of the committee,

In light of the legislation you will be considering that will greatly affect the management of the Apalachicola-Chattahoochee-Flint river system, I am writing to you as a resident of nearby Tallahassee, Florida to present my experiences of and perspectives on Apalachicola Bay and the surrounding area. I thank you for taking the time to read this and hope you will consider the views expressed when deciding on the legislation.

I moved to Tallahassee one year ago and was immediately amazed by the beauty of the surrounding area, including Apalachicola Bay. I have been fortunate enough to enjoy much the area has to offer from kayaking on the Apalachicola river, eating local seafood, spending the night in one of the old hotels in Apalachicola and swimming at St George Island. As an oceanographer, I know that such a spectacular variety of ecosystems and large biodiversity can only come from a delicate balance of environmental conditions. The oysters that live in Apalachicola Bay, for example, depend on clean water with a specific salinity to survive. This balance is one I know very well, having grown up with a view of the mouth of the Thames Estuary in the UK. In this area, oysters were big business. However, between 1940–1970 water quality degraded as the river became increasingly polluted. The oyster beds, that had been farmed since Roman times, declined and the towns that depended on the oysters suffered huge loss. As I grew up during the 1980s and 1990s things slowly turned around. Pollution was reduced and eventually the oysters came back. Today even seals have been spotted in the estuary, a sure sign the fish are plentiful and the water clean. Some rejuvenation of the commerce and life of the towns affected has been possible but they are still not what they once were and will most likely never be again. This kind of story is all too common, whether it is due to pollution, over-fishing or over consumption of water. It would be devastating and demonstrate a huge amount of ignorance and lack of learning on our part if this were to happen to the Apalachicola-Chattahoochee-Flint river system.

Water is unquestionably our most precious resource. Good management and effective distribution of water is key, not only to our lives today but also for the generations that follow us. As well as our need to consume it directly, water provides us

with further resources such as food and energy and a habitat that both supports us and keeps us in good health both physically and mentally.

I urge you to consider these points when making your deliberations and hope that you will help prevent consumption driven decisions and short term easy options from destroying both livelihoods and the environment that sustains us.

Yours faithfully,

HANNAH HIESTER

I am writing to express my concerns about the future of the Apalachicola River and Bay unless Congress takes action now to increase and stabilize the freshwater flows into Apalachicola Bay from the Apalachicola River. The Apalachicola River and Bay ecosystem is a national resource that provides jobs for thousands of people who harvest and process oysters and other seafood. This oyster industry is in grave danger under present water flow management practices, primarily because of too much water used or held back by upstream states. This needs to change.

The oyster industry is a key economic driver of the Apalachicola Bay area and supplies some 90 percent of Florida's oysters. In addition local seafood is a key part of what draws tourists to this region. We are not Florida residents, but usually spend two months of each year in the Apalachicola area. Local seafood is one of the primary reasons we come to this area. The other is to enjoy the natural resources of the area including the Apalachicola River and its surrounding watershed. A healthy Apalachicola River is critical to the future of the tourist industry as well as the seafood industry. Many more thousands of jobs and the prosperity of the entire Big Bend region of the Florida Gulf are at stake here.

Years and years of inter-state bickering and neglect have led to the present dire situation. Action by Congress is needed and needed immediately.

RANDALL DOWNING

Dear Ms. Gibson and Mr. Houton:

We would like to have our comments included in the U.S. Senate record on the importance of freshwater flows for the Apalachicola River and Bay.

We live in Tallahassee, though are no strangers to the Apalachicola as we have boated on the river and its bay for many years (houseboat, sailboat, motor boat and canoe). It is a majestic and powerful river, its waters and surrounding lands supporting large numbers of terrestrial and aquatic wildlife as well as the people who fish its waters. A whole oyster industry is dependent on sufficient freshwater flow from farther north. But you know all this.

We believe that the freshwater needs of the ecology of the river and bay are just as important as the water needs of the City of Atlanta. Both should be considered. Certainly there need to be limits to growth based on the availability of water. Certainly there need to be widespread water conservation practices implemented throughout the watershed such as low flush toilets in every hotel and home, limits to lawn watering, water reuse on farms and so on.

The bottom line is that we must restore the flow of freshwater to the Apalachicola River and Bay. It is important.

Sincerely,

DONNA LEGARE AND JODY WALTHALL

Dear Ms. Gibson,

As a native Georgian but now a resident of Florida, I request that action needs to be taken by Congress to increase the water flow into the Apalachicola Bay. I have been coming to this area of Florida since 1976 and have valued the beauty and seafood abundance of the Last Great Bay. I lived for a decade in Atlanta and have noted firsthand how my native state capital uses its water supply from the Chattahoochee River. Indeed, Atlanta has never met a developer it did not like. I understand there are water needs in Georgia, but due consideration must be given to those downstream who also have needs for that water. The restriction of the water flow to South Georgia and the Apalachicola Bay is strangling the life out of the those communities downstream from Atlanta. The current ruling of the courts will

result in the death of the seafood industry and a way of life in the Bay. I plead for action before the it is too late.

Respectfully,

MICHAEL CUMPTON,
St. Augustine, Florida.

Dear Senator Gibson [sic],

Preserving the ecosystem of the Apalachicola River is critical for our survival. We must find a way to compromise with all parties that wish to use our precious and diminishing resources. It is unacceptable to let an entire habitat that many use for their livelihood be destroyed.

Have you played Jenga. Removing one critical piece causes the whole tower to collapse. Don't be responsible for the suffering of our children and our children's children. The Apalachicola and its human and other inhabitants NEED freshwater.

Sincerely,

RACHEL KELLEY

Dear Mr. Houton and Ms. Gibson,

As you may be aware the Apalachicola Bay is one of the last places in the U.S. that wild, rather than farmed oysters are available. This bay is an invaluable natural resource for many reasons, oysters being just one. A large amount of the wild caught fish from the Gulf of Mexico begin life in the brackish water of the great estuary. These fisheries account for large numbers of jobs as well as important tax revenue for Florida, Alabama, Mississippi and the U.S. Government.

This bay is being strangled by a lack of freshwater coming down the Apalachicola River. The head waters of this river are north of Atlanta, Georgia. The Atlanta region has been able to tap into Lake Lanier and the Chattahoochee River as a water source. Lake Lanier was not built as a water source for Atlanta, this is a matter of public record.

As one who lives in the Atlanta metro area I see tremendous water wastage almost daily. The metro region just gives lip service to water conservation, and makes no serious efforts to conserve water.

These two competing interests do not have to be at odds. Apalachicola Bay needs can be met, as well as those of Atlanta metro, if serious and substantive conservation efforts are invoked soon.

Please do not let the expansionist goals of North Georgia politicians destroy one of the last great estuaries in the United States.

Sincerely,

DR. JONATHAN GOODSON

TO WHOM IT MAY CONCERN:

I own and have operated Water Street Seafood for 26 years in Apalachicola, FL. Water Street Seafood processes and distributes oysters, shrimp, crabs and fish harvested from Apalachicola Bay and the Gulf of Mexico. Water Street Seafood employs about 50 people and buys from over 100 fishermen. All of these jobs are dependant on the health of Apalachicola Bay. Because of the lack of freshwater from the Apalachicola River, our oyster production has dropped over 75 percent, crab production has dropped 90 percent, shrimp and fish have dropped over 50 percent.

I have also owned The Blue Parrot Restaurant on St. George Island, FL for the past 17 years. The Blue Parrot employs over 70 people during the summer season. The Blue Parrot is known for its fresh local seafood. The visitors who come to Franklin County come here to enjoy all the activities Apalachicola Bay offers. Without all the recreational activities related to the bay and its biodiversity, the visitors would not come here. Most of the jobs in our tourism industry would be lost.

The lack of water flow from the Apalachicola River will eventually destroy Apalachicola Bay and all the jobs which depend on a healthy bay. We desperately need all our Florida politicians to do everything possible to insure that Apalachicola Bay gets the river flow it needs. The state of Georgia must be required to create and follow very serious water conservation laws which will be in the best interest of all Americans. The United States Senate and Congress must act to create the required laws directing the Army Corps of Engineers to make Apalachicola Bay one of the top priorities in the management of water flow in the Apalachicola River.

Mankind is destroying the Earth one river, one bay at a time. However, we have the power and ability to preserve the Earth. Apalachicola Bay is a very unique and special ecosystem which can only be found one or two other place on this planet. Please do everything possible to save the Apalachicola Bay.

Berst Regards,

STEVEN C. RASH,
President,
Water Street Seafood, Inc.

Dear Respected Senators,

While my home is in Wilmette, Il. My wife, Lydia and I own 2 Vacation Rentals in Gulf County, Fl. and land in Franklin County, Fl. We pay our fair share of real estate taxes and Revenue taxes from our weekly rentals. We have been in the area since 1998 and absolutely love the "Forgotten Coast" as it is referred to often. The natural beauty and pristine nature balance is truly one of the most beautiful area in all of the U.S. "Old Florida" is alive and well down here.

There is absolutely no way we can let the Apalach Ecosystem become endangered any more than it already is!!!!!! We have to let the water from Georgia come down and protect this beautiful gem. The statistics of oyster density has gone down by 75!!!!!! Please help and prevent this potential ECO disaster from happening. Not to mention the potential further disintegration of the Oyster production industry and all the "Unintended Consequences" that would bring.

Save the Apalachicola River and Bay!!!!!!!!!!

Thank you!!!!

PETER J. AND LYDIA A. BURNS

This is a plea for Congress to act on behalf of the Florida citizens who live in Franklin County and elsewhere to protect the Apalachicola River and Bay. The Corps of Engineers needs to be directed to provide freshwater flows necessary to save Apalachicola Bay and the seafood industry here which is so vital to our economy.

MARCIA M. JOHNSON
Clerk of Circuit Court, Franklin County.

The health of the Apalachicola Bay and the livelihood of the citizens that live in Franklin County, Florida are at risk. This is not something that might occur, rather it is happening now and has been for the last several years. The restricted water flows into the Apalachicola River and therefore the Bay have caused a major change in the ecology of the region. The primary industry in Franklin county is oyster harvesting. Oysters require a delicate balance of both salt and freshwater to thrive and grow. The town needs Oysters to continue to thrive and grow. Neither are getting what they need.

Congress has an opportunity to take action and make a difference. The Governors of Florida, Georgia and Alabama have been ineffective in collaboratively resolving the issue. Rather, they are drawn to opposite corners by special interests. The result has been a stalemate, inaction and continued loss of jobs and a unique American way of life.

Please take action to support increased water flows into the Apalachicola River. Thank you for your consideration.

RICK ZELZNAK

I am writing to have my voice heard regarding the need for freshwater in the Apalachicola River and subsequently, the Bay. The idea that Georgia has the right to "own" the water that has been kept captive and is being overused by that state is ludicrous.

Not only is a way of life and the oyster industry at stake, but the environmental balance of this entire area of North Florida.

Water levels must be restored to the Apalachicola River.

Sincerely,

CARLA MARIE REID

The time has come to consider filling in the man-made Bob Sykes Cut! This huge breach of what was once a barrier island (St. George) in 1953 results in two tidal salt water flushes and two freshwater syphonings out of the bay each day. This is not natural and was never intended. It is the root of the oyster production problem.

Yes, we have gotten away with this ill conceived shortcut to the gulf for decades. But like all tamperings with nature, unintended consequences usually occur, later than you think and greater than you anticipate. Such is the case with today's dying oyster industry!

There is no argument that water flows are substantially down due to long-term reduced rain fall in North Georgia. Also, Atlanta's increased consumption of water is greater than ever before. However, suing Georgia will have no affect on the weather or the growth of the city's population. An alternative approach is required which is immediate, affordable, and calculated to produce no adverse impact on government relations between states or negatively impact the ecology of the oyster beds.

If the cut were refilled, it is my contention that there would be sufficient freshwater flooding the oyster beds to sustain profitable harvests, even with the reduced river flow. Let the scientist, rather than the politicians, evaluate and settle the merits of the issue. Then have the politicians act to effect the closing of the cut. In fact, the cut would only require a modest loose-rock dam across it. Then just let nature fill it in with sand as it will in due time since all dredging will have cease.

I challenge you to accept my cost-effective hypothesis and at least study the oyster problem from a water salinity perspective rather than a legal challenge to our neighboring state. Thank you very much for your time and consideration.

Sincerely,

LEE AVIRETT

The lack of freshwater flow down the Apalachicola River has now reached crisis stage. This is a disaster not only for the oystermen of the bay but all the people who enjoy the healthy food from the Gulf of Mexico. The estuary supports 90 percent of the sea life at some stage of their development.

As a native-born Floridian, I beg you to not waste this opportunity to save an American Treasure for my grandsons and those that come after them. We have already lost too much of natural Florida as I knew it as a child. The sea life may well be the canary in the mine for this planet.

DONA CARBONE

Congress needs to instruct the Army Corp of Engineers to establish freshwater flows that will sustain the Apalachicola Bay.

Economically, the livelihoods the oystermen and fisherman depend on the Bay continuing to produce the bounty it is capable of producing.

Furthermore a damaged estuary will not support the robust tourism industry that depends on this vibrant ecosystem. The livelihoods of many other local residents now depend on continuing to attract visitors looking to experience what is fast becoming a vanishing wonder of nature.

I am sure that the inland residents of Georgia also feel that upstream water extraction is also crucial to their economic livelihood.

The difference is that that the Bay is a treasure of biological diversity of flora and fauna that deserves protection as a regional if not national importance. As a part of the National Estuarine Research Reserve System, the Federal Government has already recognized the importance of this bay.

Now Congress needs to take the necessary steps to protect it.

EDWARD SCHROERING

I want the Senate Commerce Committee to urge the Obama administration to direct the Corp or Engineers to revise the Water Control Manual for the Apalachicola Chattahoochee Flint Rivers (ACF) system to restore necessary water flows for the Apalachicola River to protect endangered fish and wildlife and Apalachicola Bay. The Declaration of Fisheries Disaster for the bay and its oyster population further justifies the restoration of historic river flows necessary to provide adequate freshwater for the Bay. The State of Florida has been robbed of water long enough. The reversal of Judge Magnuson's brilliant and correct opinion—that the COE's violated the law by allowing water for consumption and boating in Atlanta at the expense of the Apalachicola River and Bay—is a travesty of justice. As a former General

Counsel for the Florida Fish and Wildlife Conservation Commission, I know first hand the damage done to endangered mussels and oysters and to the small businesses that depend on the oyster harvest.

I thank Senators Nelson and Rubio for conducting the hearing in Apalachicola.

JAMES ANTISTA

I was born in Apalachicola in 1948 and my father was a boat builder there. I've spent a great deal of my life appreciating and enjoying the Apalachicola River and its ecosystem, its culture, and its people and realize that this may be our last chance to take a stand and do the right thing for the future of this area. The Apalachicola River is one of the most beautiful and sensitive areas in our country. It desperately needs your help. The water flow that originates in Georgia has been diminishing for years and this has a profound effect on the area. Floridians are asking for a fair share of that water to preserve a national treasure. Please help. We all need to be doing everything we can to protect and save what's left of our wildlife for generations to come. Clean water is at the core of our survival. The time is now and you can make a difference. Thank you very much for caring and realizing the importance of this issue.

WANDA PHARES,
Tallahassee, Florida.

Good evening,

I regularly kayak the Apalachicola-Chattahoochee-Flint Rivers system. Mismanagement of the rivers system affects the flora and fauna that other non-consumptive recreationists and I wish to see. Non-consumptive recreationists provide another economic boost to the communities around the rivers, one that is threatened by current management practices.

Please, keep water levels such that they sustain the rivers. We Floridians matter.

I am calling on Congress to pass legislation requiring the Army Corps of Engineers to operate the Apalachicola-Chattahoochee-Flint Rivers system to ensure that the rivers receive the freshwater flows they need to support healthy populations of fish and wildlife and the vibrant resource-based economy that relies on a healthy, natural system.

Thank you.

ELIZABETH SLACK

I do hope that all of this is seriously taken. The lively hood of the residence of Franklin County is dependent on Apalachicola Bay. We are all connected in some way. If it is harvesting oysters, developing tourism, or try to live in a vibrant economy that we don't see people eking out a living. The River and Bay are life of Franklin County.

I live on East Bay, I own an Art Gallery on St George Island, I served on Northwest Water Management District Governing Board for 12 years and I am on the board of the Apalachicola Riverkeepers. I see firsthand the devastation that occurs when we do not get the freshwater that we need to replenish the bay and keep it healthy.

This is not a political plight of who is right and who is wrong. It is about the life of our God Given treasure called the Apalachicola River and Bay. It must not be a political pawn as it is now being used as.

I do hope and encourage Congress to act accordingly to save our River and Bay.

Thank you for listening, we all wait in hopes that the right decisions will be made in this critical moment.

Blessing,

JOYCE ESTES,
Sea Oats Gallery.

The locals of the northwest FL in the region of the Apalachicola Bay are asking your help as members of the Senate Committee on Commerce, Science, and Transportation regarding the upcoming hearing to support the continuing legislation to

protect our water rights and save our bay, oyster industry and restore the precious balance of salinity and the health of the Bay.

Sincerely,

DIANE COFER,
Realtor,
Panama City, FL.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
Atlanta, GA, August 23, 2013

BY ELECTRONIC MAIL AND U.S. MAIL

Committee on Commerce, Science, and Transportation,
United States Senate,
Washington, DC.

Re: SUBMISSION TO RECORD OF COMMITTEE HEARING ON "EFFECTS OF WATER FLOWS ON APALACHICOLA BAY: SHORT AND LONG TERM PERSPECTIVES," AUGUST 13, 2013

Dear Members of the Committee:

The U.S. Senate Committee on Commerce, Science, and Transportation held a field hearing in Apalachicola, Florida, on August 13, 2013, on the topic "Effects of Water Flows on Apalachicola Bay: Short and Long Term Perspectives." Although there was a great deal of discussion at the hearing about Georgia's water use in the Apalachicola-Chattahoochee-Flint (ACF) River Basin, the Committee did not invite anyone on behalf of the State of Georgia or its water users to speak at the hearing. The Committee did, however, provide that the record of the hearing would remain open for ten days for any member of the public to submit written information that they desired to be included in the record. Accordingly, I make the timely submittal of this letter and the attached analysis for you to include in the record.

The data refute the assertion that Georgia's water use is causing or contributing to the reported decline in the Apalachicola Bay oyster population. Recent decades have seen droughts of increasing frequency and severity. These droughts are natural phenomena that stress the environment throughout the ACF Basin. Stream flows have accordingly declined in recent decades as a result of reduced natural inflow and other factors unrelated to consumptive water use in the State of Georgia or the U.S. Army Corps of Engineers' ACF reservoirs. In fact, contrary to what some have erroneously suggested, flows in the Apalachicola River have been higher during recent droughts than they would have been in a state of nature, because the Corps releases large amounts of water stored in reservoirs in Georgia to augment the flow in the Apalachicola River. Moreover, salinity in the Apalachicola Bay generally, and specifically at the most productive oyster beds, is highly variable and not affected in any material way by variations in the flow of the Apalachicola River of a degree equivalent to the amount of Georgia's water use. Among other things, the saltwater inflow from the man-made Sikes Cut has a much greater impact on salinity at the oyster beds.

As even the Governor of Florida, the University of Florida, and others have noted, the decline in the oyster population in the Apalachicola Bay appears to be related to poor management of the oyster habitat in Florida. Oyster harvesting reached record-high levels in the 2011–2012 time period, with the predictable result that the oyster population experienced a substantial reduction. It would appear that the State of Florida should direct its resources at restoring the affected substrate and more tightly controlling harvesting, particularly of sub-legal oysters, rather than making unjustified claims against Georgia.

I trust that you will find the attached analysis informative. Please let me know if you have questions or desire additional information.

Sincerely,

JUDSON H. TURNER,
Director,
Environmental Protection Division,
Georgia Department of Natural Resources.

Enclosure

ATTACHMENT

STATEMENT BY THE ENVIRONMENTAL PROTECTION DIVISION OF THE GEORGIA
DEPARTMENT OF NATURAL RESOURCES**Georgia Environmental Protection Division**

The Environmental Protection Division of the Georgia Department of Natural Resources (EPD) is the primary agency responsible for the management of water resources in Georgia. EPD ensures that adequate water supplies and water quality are maintained through permits issued to local governments, industry, farmers and subdivisions for surface water and groundwater withdrawals, and through the permitting of treated wastewater discharges. EPD ensures that Georgia's public water systems are operating properly to supply safe drinking water to citizens, works to control nonpoint sources of pollution, including erosion and sedimentation, and regulates storm water discharges. EPD also conducts water quality monitoring and modeling of Georgia's waterways.

Analysis

EPD has reviewed the Oyster Resource Assessment Report issued in August 2012 by the Florida Department of Agriculture and Consumer Services, Division of Aquaculture; the April 24, 2013 Apalachicola Bay Oyster Situation Report; the 2012–2013 Florida Gulf Coast Oyster Disaster Report published by the Florida Fish and Wildlife Conservation Commission in May 2013; and testimony filed by various parties for the August 13, 2013 field hearing conducted by the U.S. Senate Committee on Commerce, Science, and Transportation in Apalachicola, Florida. A number of these documents assert erroneously that consumptive use of water by the State of Georgia is the cause of the decline in the Apalachicola Bay oyster fishery. These assertions are flatly incorrect and ignore the facts showing that drought and fishery mismanagement are the most likely causes of the decline in the oyster fishery, not Georgia's reasonable use of the water resources within its borders.

Below, EPD corrects some of the key errors in the above-mentioned reports and testimony, and demonstrates that (1) Georgia's water consumption is reasonable; (2) this use has little, if any, impact on conditions in the Apalachicola Bay; and (3) the steep decline oyster populations coincided with record overharvesting and mismanagement of oyster populations in Apalachicola Bay.

The Decline in Flows into the Apalachicola Bay is a Natural Phenomenon Experienced Throughout the Southeast

Florida asserts that stream flow in the Apalachicola River has been lower during recent droughts than in previous droughts, and that Georgia's water consumption is the reason. The facts do not support this assertion. To the contrary, stream flows have been declining throughout the ACF River Basin and other basins in Northwest Florida feeding into the Gulf of Mexico for reasons that have nothing to do with water consumption in the State of Georgia. The trend of decreasing Apalachicola River flows has been seen in other rivers throughout the region. The following two figures show this trend in the Apalachicola River and Florida's Choctawhatchee River, which does not flow through Georgia.

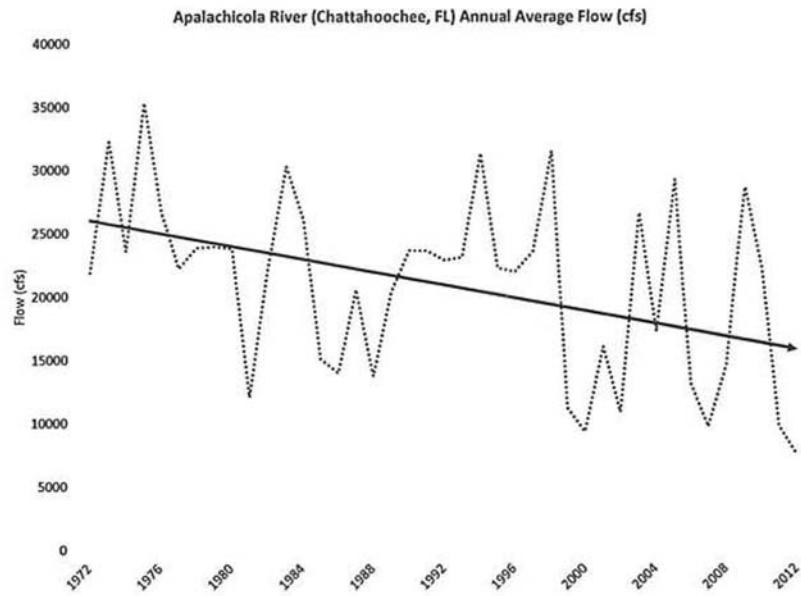


Figure 1

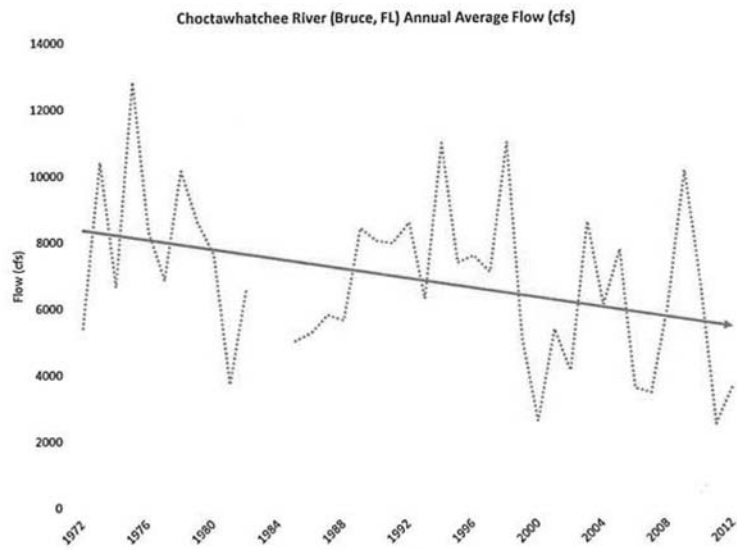
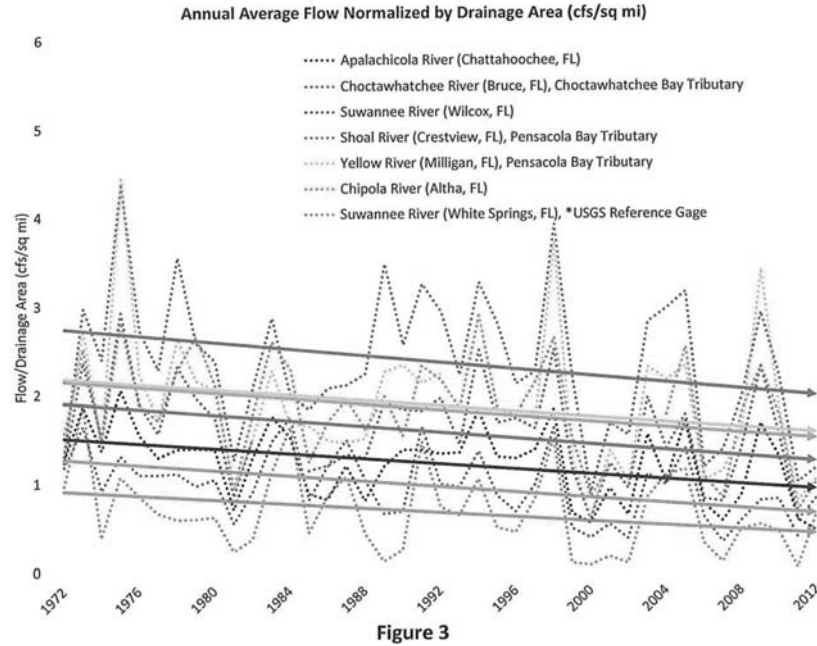


Figure 2

The same trends holds for other tributaries to gulf bays. The figure below shows seven gages, including the two shown above; the flows have been normalized by drainage area so the trends can be seen on a single plot. As can be seen, stream flows show a general declining trend over the period from 1972 to the present. Moreover, as discussed in greater detail below, this trend is entirely unrelated to water use in the State of Georgia.



In fact, this downward trend is even more pronounced in the Florida drainage area of the ACF Basin. The figure below shows the Apalachicola River flows at the Florida state line (USGS Chattahoochee, FL Gage) and the incremental flow entering the Apalachicola River between the Chattahoochee, FL Gage and the Sumatra Gage further downstream.¹ The flows again are normalized by drainage area for comparison. The decline in the incremental flow in the Florida portion of the Apalachicola River drainage obviously is not caused by Georgia's water use or the Corps' reservoir operations. This decline, like the decline in the inflow within the basin in Georgia, is attributable mainly to natural hydrological changes.

¹ Sources: 1978–2012, USGS gage 02359170; 1972–1978 (not available from USGS), Corps of Engineers records provided with ACF ResSim model (ACFHEC_10.dss file).

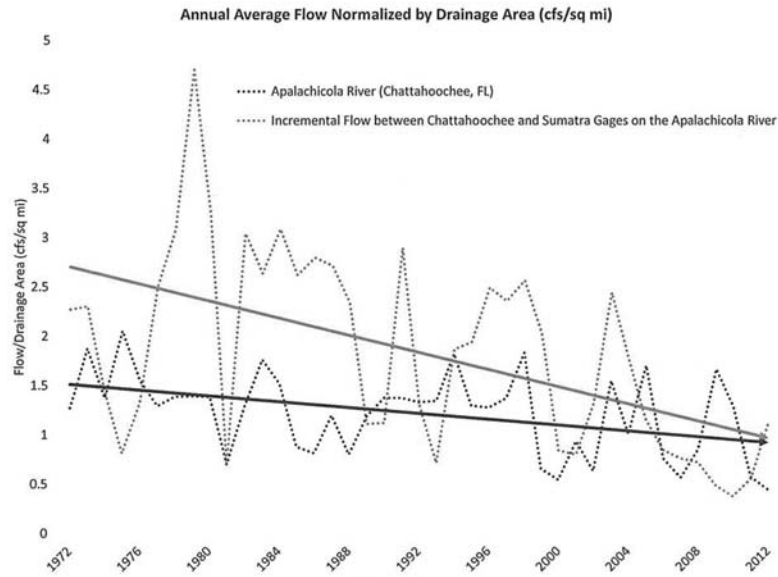


Figure 4

As seen below, similar trends are observed in “reference” stream gages such as the Suwannee River (White Springs, FL) Gage, identified by the USGS as representing a natural or least-disturbed condition. Thus, these trends appear to include a climatic component, as the observed declines in stream flow are occurring without regard to consumptive withdrawals within these basins.

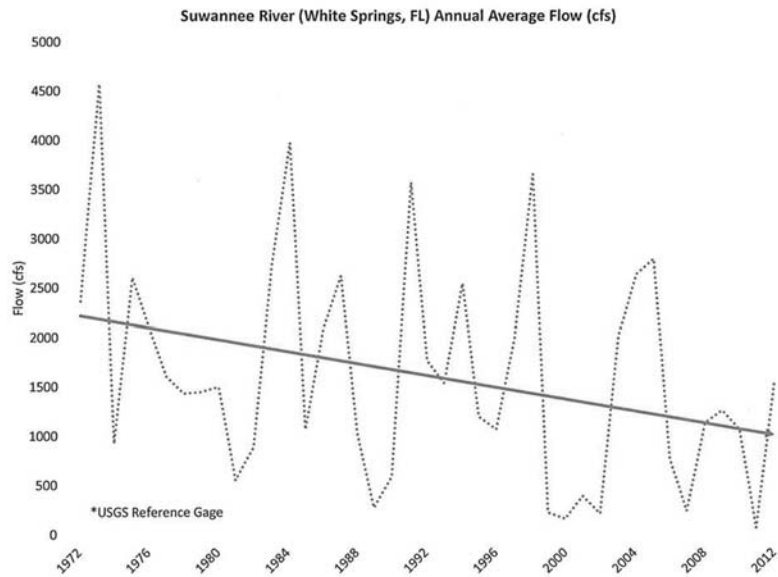


Figure 5

Natural Unimpaired Flows (Without Human Influence) Have Been Lower In Recent Droughts Than In Previous Droughts

The Florida Fish and Wildlife Conservation Commission's May 2013 Disaster Report includes a graph (Figure 2, on p. 37 of the Disaster Report) suggesting that upstream consumption and the Corps' management have produced "significantly lower flows." The FFWCC graph is misleading and FFWCC's assertion is false. As a matter of fact, the cause of the increase in low flow days is a change in the natural, unimpaired flow.²

The green bars below show the unimpaired flow³ available to support flows over 6,000 cfs for the same period presented in FFWCC's graph. The lower the green bar, the less water was available in nature, and the more days below 6,000 cfs (blue bar). As can be seen, the increase in the number of days below 6,000 cfs has corresponded with a sharp reduction in the unimpaired flow. In fact, the 2008–2012 period was the only period during which *the mean unimpaired flow was less than 6,000 cfs*. It is therefore not surprising that this period would have the greatest number of days with flows below 6,000 cfs.

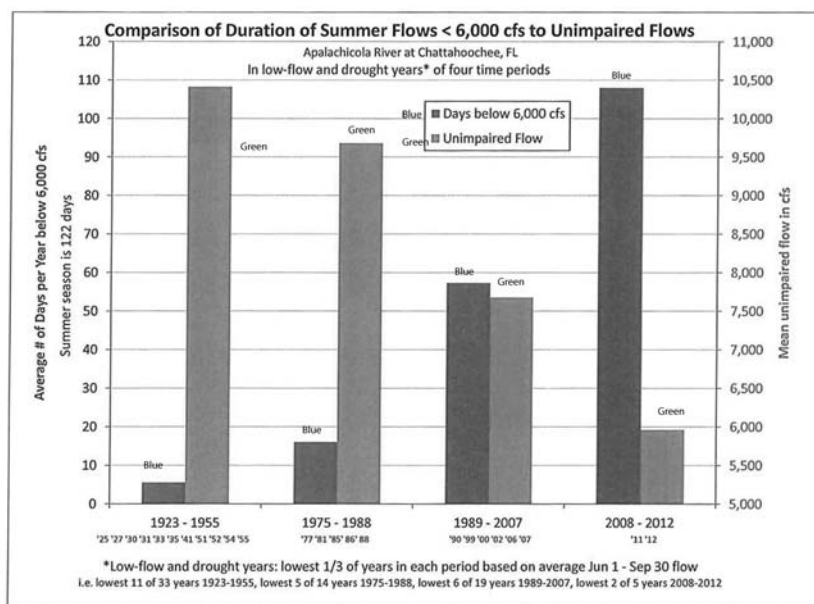


Figure 6

Florida Overstates Georgia's Consumptive Use

As explained above, flows in the Apalachicola River have been decreasing overall in recent years for reasons unrelated to upstream consumptive use. Nevertheless, some in Florida continue to assert that water use in the Atlanta region is a significant factor in this decline. This is simply not the case.

Consumptive water use within Metropolitan North Georgia represents only small fraction of the flow in the Apalachicola River downstream in Florida. Indeed, since 2000, Metropolitan North Georgia's total municipal and industrial consumptive use

²Unimpaired flows are historically observed flows with human influences removed. Human influences considered in derivation of unimpaired flows include flow regulation by and net evaporation from large reservoirs, and water withdrawals and wastewater returns by municipal, industrial, thermal power, and agricultural water uses. Groundwater pumping is also considered to the extent surface water flows are reduced. The use of unimpaired flows, as opposed to historical observed flows, allows resource assessments to be founded on the "natural" hydrology of the stream network. This approach enables consistent, unbiased evaluation of the impact of past, present, and future water regulation and consumption activities on stream networks.

³The Corps of Engineers' unimpaired flow data set was used for the available period (1939–2008). Chattahoochee, FL Gage data was used from 1925–1938, and values were calculated using the Corps' methodology for 2009–2012.

in the ACF Basin⁴ has been equivalent to only 0.5 to 3 percent of the average annual flow at the Sumatra, FL Gage.⁵ Note that Metro Atlanta's use has been decreasing since 2000, as shown in Figure 8. The below figures include Metro Atlanta's municipal and industrial consumption from both the Chattahoochee and Flint River Basins.

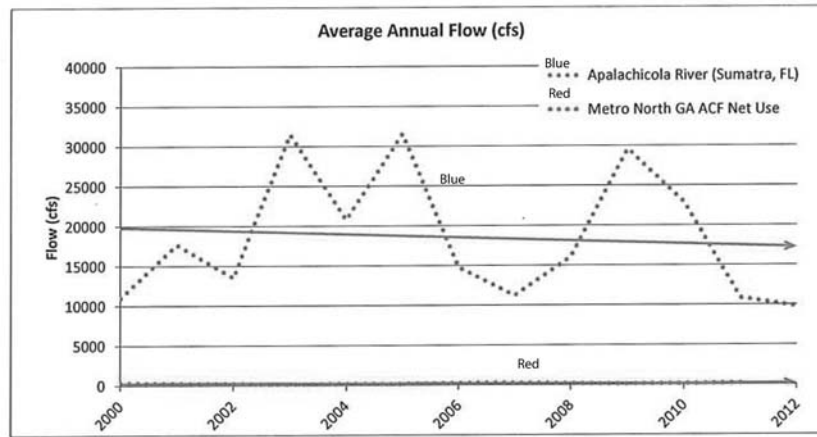


Figure 7

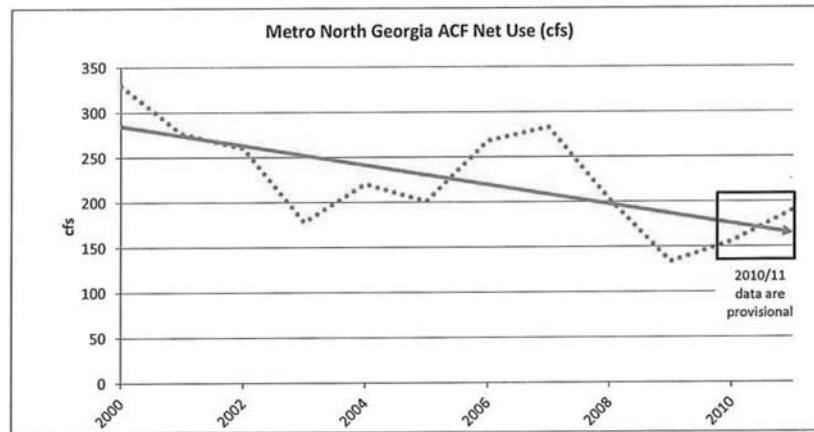


Figure 8

⁴Source: 2000–2009, Metropolitan North Georgia Water Planning District, Water Metrics Report, 2011 (water Table 3–4, wastewater Tables 4–3, 4–5); 2010–2011, PROVISIONAL DATA calculated from data provided by the State of GA EPD.

⁵USGS gage 02359170, average annual flow (calendar year).

Much of the information concerning the scale and impact of upstream water consumption presented to the Committee is inaccurate and substantially overstates evaporation and consumptive use in the ACF Basin. For example, Dan Tonsmeire of Apalachicola Riverkeeper stated that total average evaporation and consumption from May to September 2007 was 3,365 cfs. Mr. Tonsmeire's estimate is based, in part, on evaporation numbers derived from a draft report to the ACF Stakeholders Group; these numbers were revised in the final report. Mr. Tonsmeire's numbers have not been peer-reviewed and are incorrect.

Mr. Tonsmeire also overstated consumptive water use by a large margin. The recorded 2007 annual average municipal and industrial water use in Georgia was 399 cfs. This included 283 cfs for the Metro Atlanta area (including Metro consumption from the Flint Basin). For the period May through September, the average municipal and industrial water use in Georgia was 567 cfs, including approximately 420 cfs for the Metro Atlanta area (including the Flint). When we add an annual average of 54 cfs and a May through September average of 79 cfs of consumptive water use in Alabama, the annual average non-agricultural water consumption was only 453 cfs, and the May through September average water consumption was 646 cfs. These are much less than the 525 cfs (2007 average) and 735 cfs (May through September) presented by Mr. Tonsmeire.

Minimum Flows in the Apalachicola River During Recent Droughts Have Been Higher Than They Would Have Been in a State of Nature

As discussed above, the State of Florida and Mr. Tonsmeire assert that upstream consumptive use and reservoir management practices of the Corps of Engineers are almost solely to blame for reduced flows in the Apalachicola River. Though not pointing exclusively to upstream consumption, Karl E. Havens, Director of the Florida Sea Grant College Program, offered testimony that the cause of the "sudden crash in the oyster population in August 2012" was some factor "related to the long period of low river inflow and high salinity." Havens suggested that "one of the first things" he would do is run a computer model with scenarios of "the last two years *with and without human* withdrawals of water." (Emphasis in original.) Havens suggested that if "there is little difference," addressing the inflow might not be a solution to fixing the program, but that if the "difference in river flow is 10 or 20 percent (or more), there could be a solution."

As discussed elsewhere in this analysis, Metro Atlanta's consumptive use is far less than 10 percent of the average flow or even low flow at the state line. Moreover, actual flows in the Apalachicola River were even higher than they would have been in an unimpaired scenario, or in a scenario where there is no consumption and the Corps operates the Federal reservoirs in "run-of-river" mode, without any storage of water or flow augmentation.

This unaltered flow regime is known as the unimpaired flow. Comparison of the actual flows entering the Apalachicola River at the Florida state line and unimpaired flows computed by the Corps of Engineers demonstrates that, during periods of low flow, actual minimum flows (the lowest flows that occurred) in the Apalachicola River were significantly higher for extended periods of time than they would have been in a state of nature.

The figure below compares the 2007 observed flow at the Chattahoochee, Florida Gage with the Corps' unimpaired flow for that period. The combined effects of management actions and return flows back into the system actually **INCREASED** the flow across the Florida line into the Apalachicola River during the May-November drought period in 2007. From May through November of 2007, observed minimum flows in the Apalachicola River were higher, and often much higher, than what nature alone would have provided.

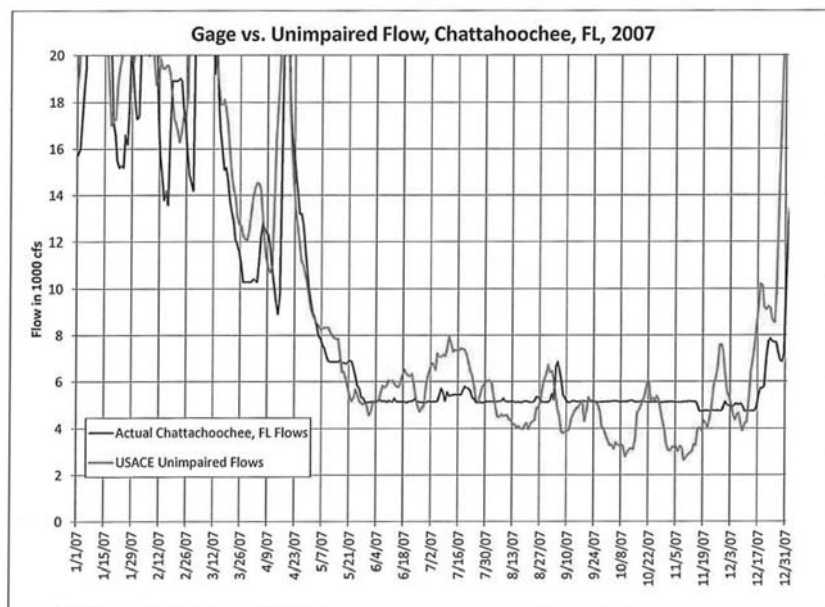
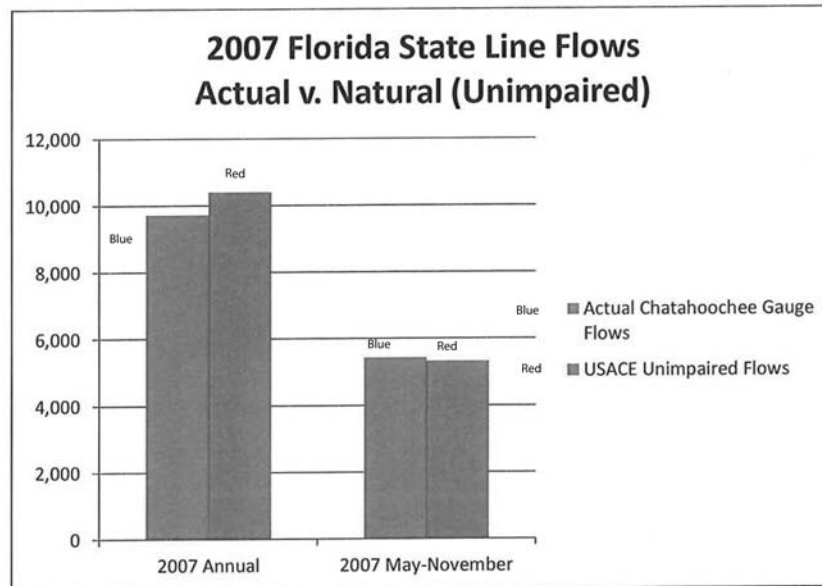


Figure 9

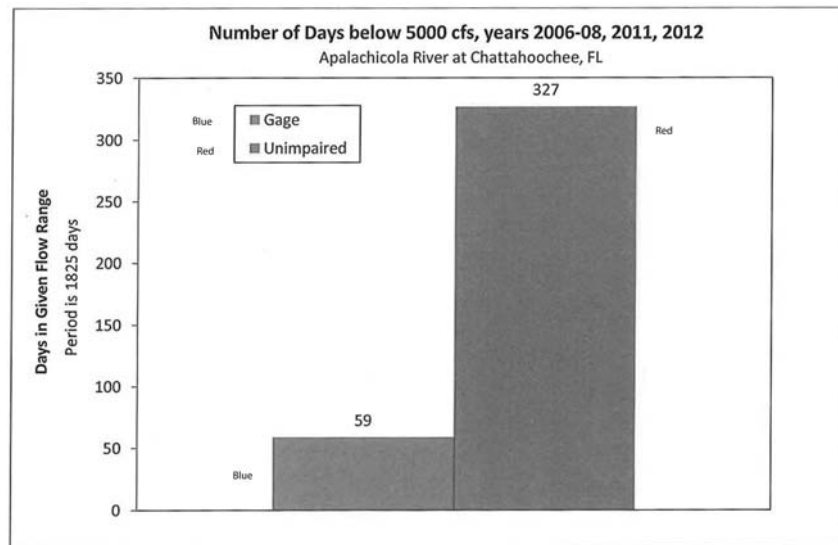
Another way to see how actual flow in the Apalachicola River flow was better than unimpaired flow is to place all the numbers in the context of the total flow in the basin. The following bar charts present a comparison of the total flow in the Apalachicola River to the unimpaired flow for May-November 2007 and the entire year of 2007, using data from the USGS gage at Chattahoochee, FL, and the Corps' Unimpaired Flow Data Set.

As can be seen:

- Florida received only slightly less (7 percent) water than the entire natural flow of the Apalachicola River for the entire year. In other words, despite the fact that 74 percent of the ACF Basin is in Georgia, Florida received 93 percent of the flow during one of the worst droughts in the hydrologic record.
- More importantly, Florida actually received more water than the entire natural flow of the river for the May to November drought period, when flows tend to be the lowest. Thus, during the record-breaking drought period of 2007, the impact of all water use in the basin upstream of Florida on the average flow was eliminated by the river management about which Florida complains.

**Figure 10**

The Corps maintains at least 5,000 cfs at almost all times at the Chattahoochee, FL Gage, and provides additional augmentation at certain times when natural flows are above 5,000 cfs. In the below graph, the number of days in which the unimpaired (natural) flow would have been below 5,000 cfs is compared to the number of days in which the actual flow fell below 5,000 cfs. The dramatic reduction (327 reduced to 59) in the number of days when flow fell below 5,000 cfs is the direct result of Corps management and return flows from upstream users. The extraordinary benefit Florida receives, in terms of maintaining minimum flows, is abundantly clear.

**Figure 11**

As Dr. Havens suggested, it is possible to use a hydrologic model to compare the flows that would have occurred both with, and without, upstream withdrawals and the effects of reservoir operations. This modeling, which Florida has notably declined to provide, demonstrates the benefits of the Corps' reservoir operations and the minimal effect of upstream consumption.

The figure below compares two scenarios. The green line represents present conditions and includes existing water withdrawals within the State of Georgia and the existing operational plans for the Corps' ACF reservoirs. The purple line shows the flows that would have occurred without any upstream withdrawals within the State of Georgia and the Corps' ACF reservoirs operated in a "run-of-river" mode where the Corps neither stores water nor releases water from storage. As can be seen, the entirety of Georgia's water withdrawals make little if any difference to downstream flows. Moreover, the upstream reservoirs substantially supplement flows during the periods of greatest scarcity.

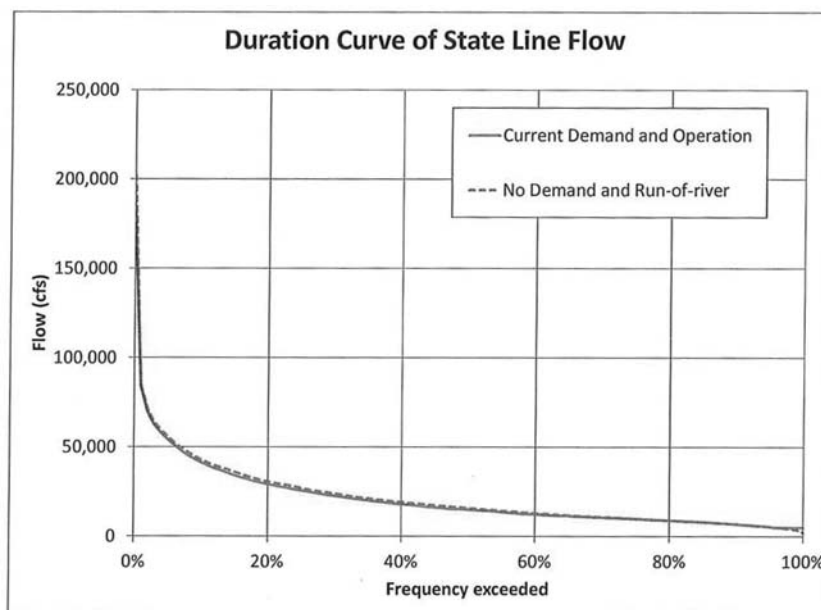


Figure 12

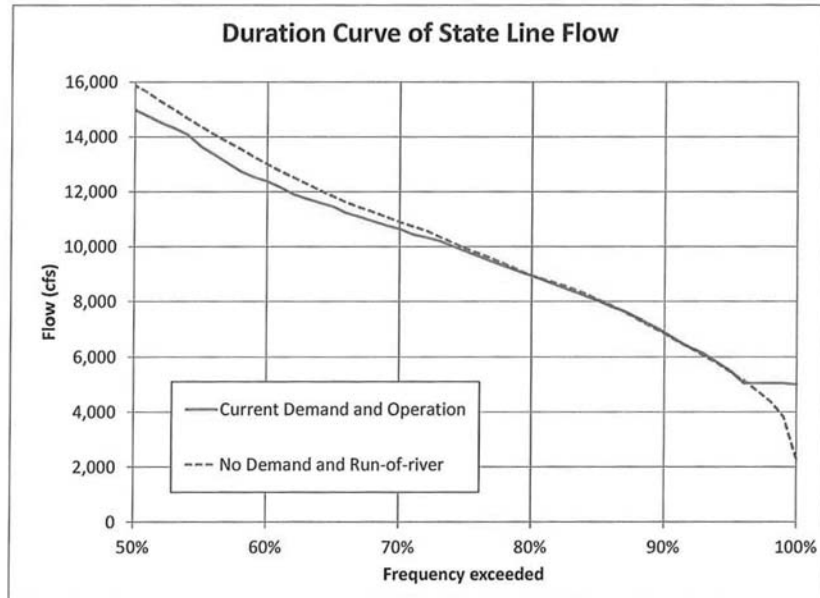


Figure 13

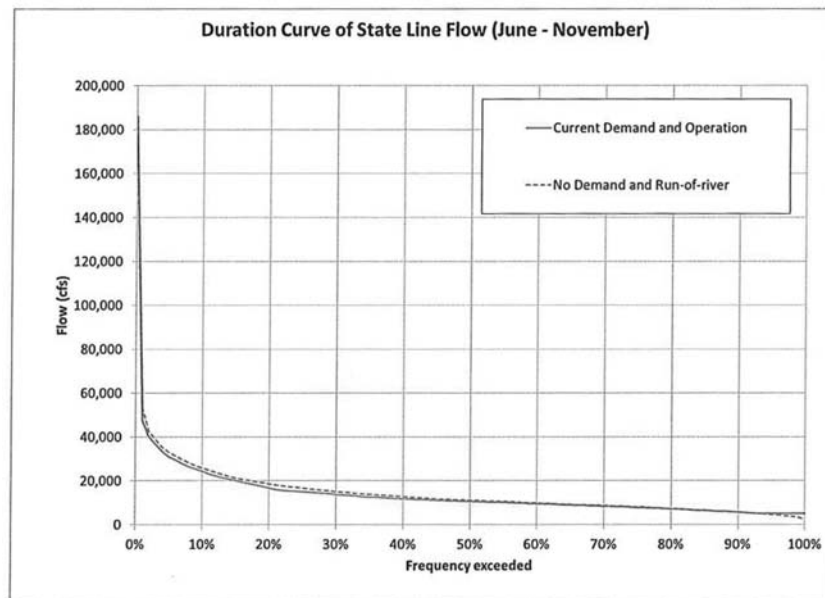


Figure 14

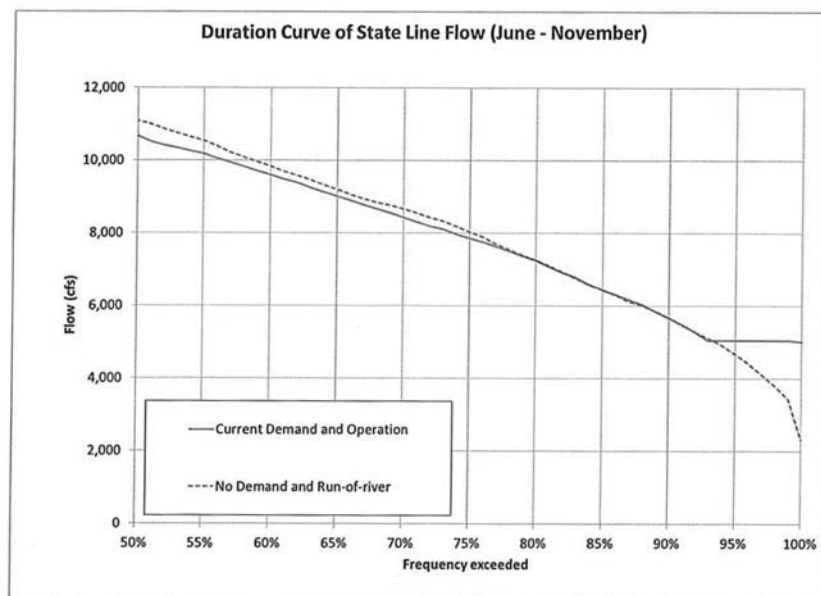


Figure 15

Georgia's Water Consumption Has Negligible, if Any, Impact on Salinity in Apalachicola Bay

The overriding premise of the testimony presented to the Committee at the hearing is that upstream withdrawals within Georgia have caused reductions in freshwater inflows to Apalachicola Bay, and that these reductions have caused oyster populations to decline as a result of substantial increases in Bay salinities. Again, this is false. Even if Georgia's upstream water consumption in the ACF Basin did not occur, there still would be little to no reduction in salinity in Apalachicola Bay.

Salinity in Apalachicola Bay is highly variable due to numerous factors, including tides, wind, and freshwater inflow (both from the Apalachicola River and local sources). A time series plot of daily average salinity concentrations for the bay at two of the larger oyster beds—Cat Point and Dry Bar—in 2002 (based on data collected by the National Estuarine Research Reserve System (NERRS)) and the corresponding flows in the Apalachicola River at the Sumatra Gage (USGS 02359170) illustrates this.

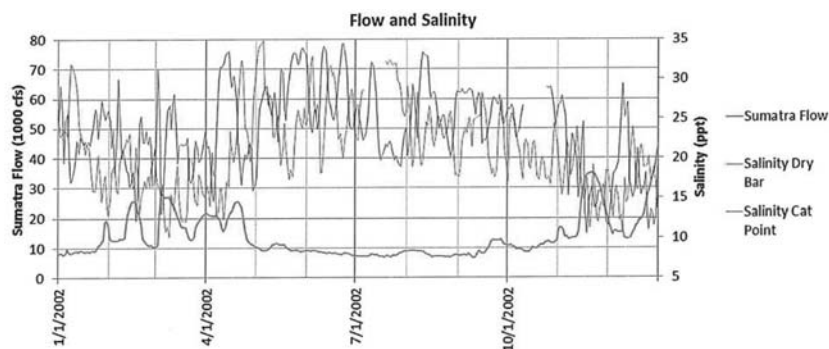


Figure 16

Because of the many factors that affect salinity, flow in the Apalachicola River is only loosely correlated with salinities at the main oyster beds in Apalachicola Bay. The following figures compare observed salinity in Apalachicola Bay and flow in the Apalachicola River at the Sumatra Gage. Salinity data again are from NERRS for Cat Point and Dry Bar, and the flows are in the Apalachicola River at the Sumatra Gage. Days with flow of 10,000 cfs or less, and 20,000 cfs or less, were selected to represent two ranges of flow in the Apalachicola River. At both sites, significant variation in salinity concentration is apparent at each level of flow, indicating the influence of factors other than Apalachicola River flow on salinity concentration at the oyster beds.

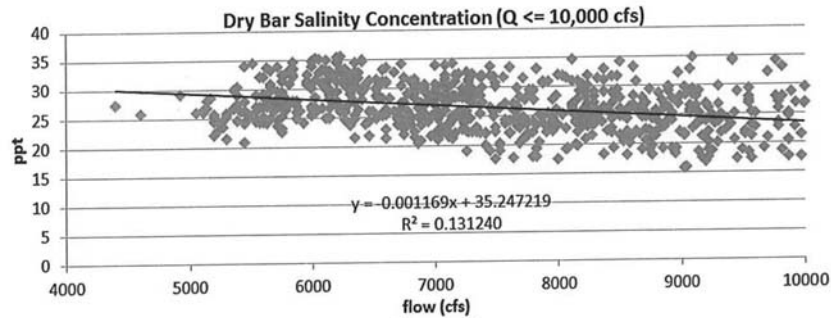


Figure 17

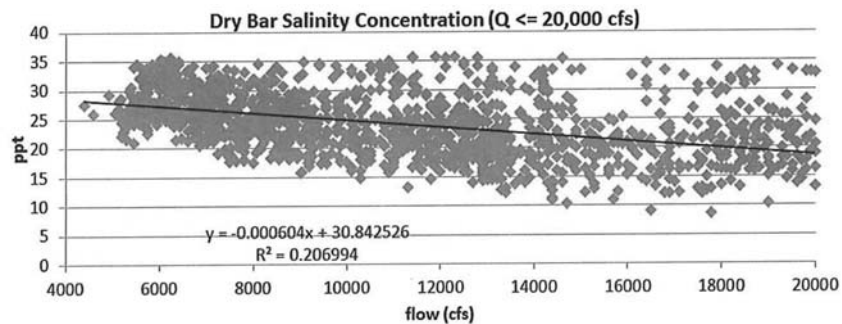


Figure 18

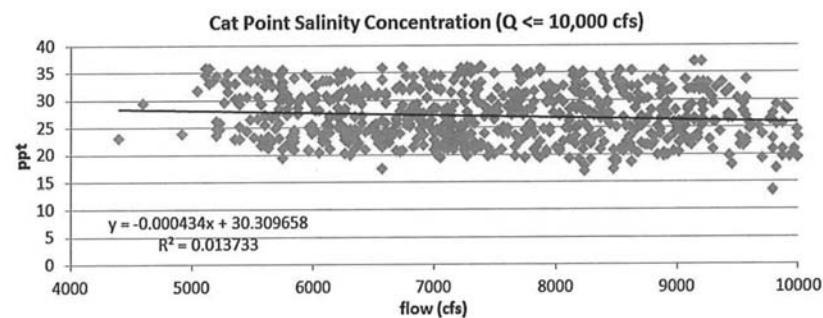


Figure 19

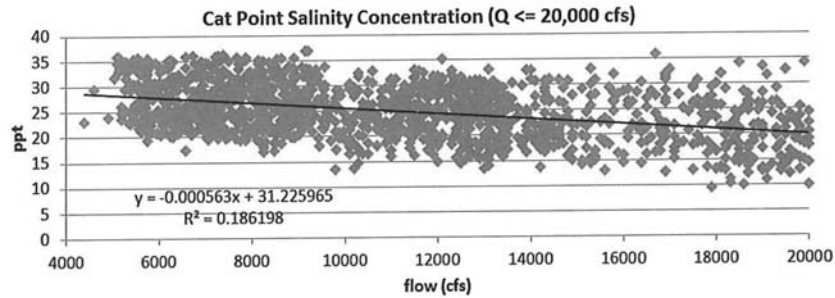


Figure 20

Using regressions based on the data above, the predicted effect on salinity of a reduction in flow corresponding to 160 mgd of upstream consumptive use—the projected year 2045 municipal and industrial consumptive of Metro Atlanta—is shown in the below bar charts. Consumptive use of this magnitude—even assuming it resulted in a 1/1 reduction in the flow in the Apalachicola River during a low flow period (flow ranging from 4,500 to 7,000 cfs), which it would not, under the Corps' current reservoir operations, would increase the number of days with salinity above 24 ppt by less than 3 percent, while the number of days with salinities above 20 ppt would increase by less than 1 percent.

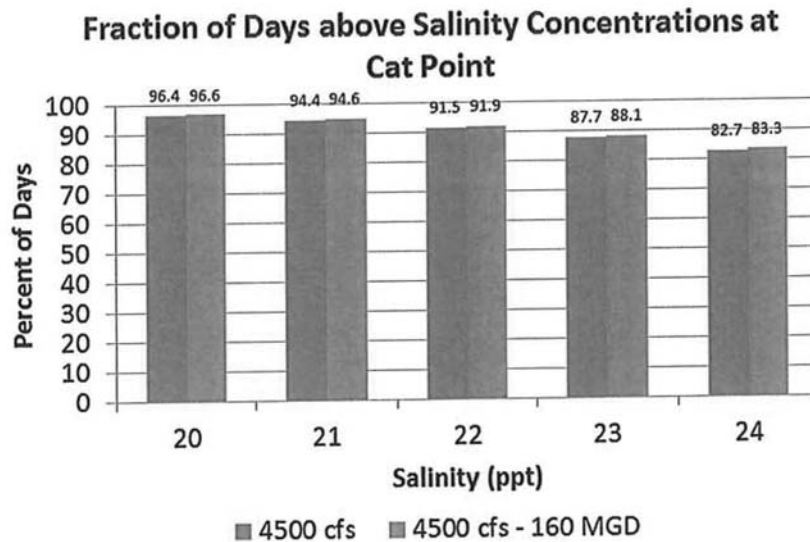


Figure 21

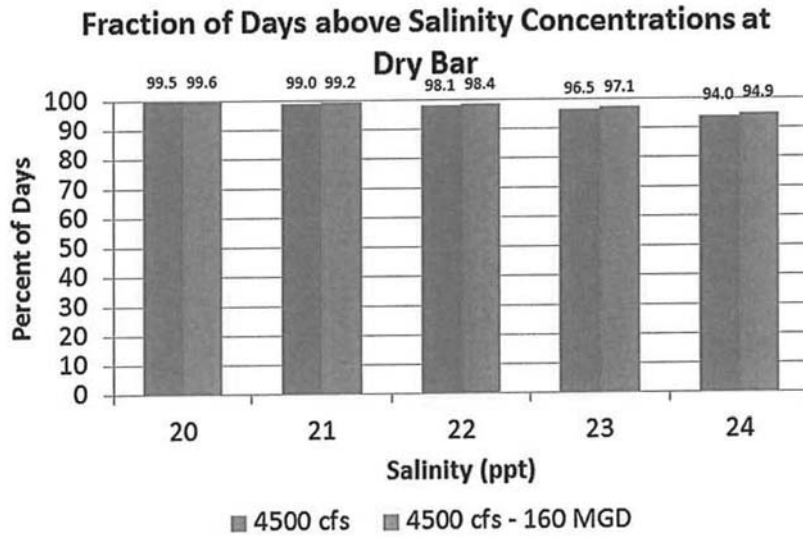


Figure 22

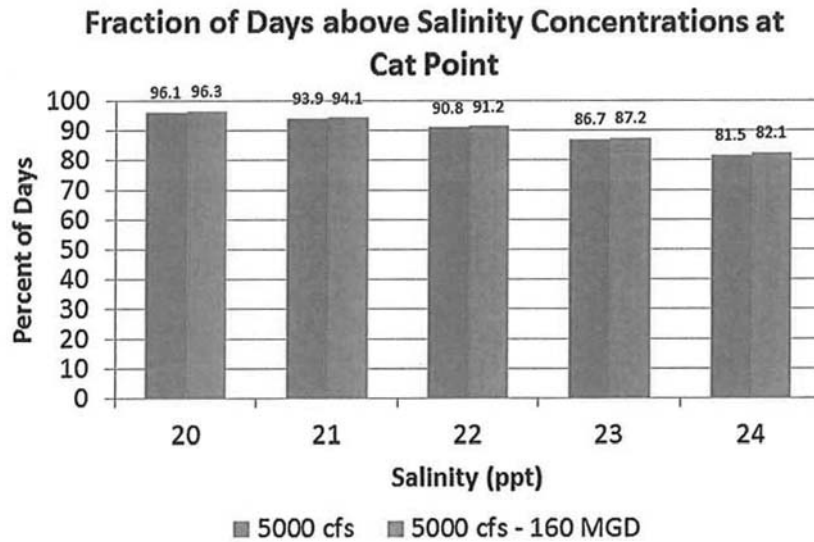


Figure 23

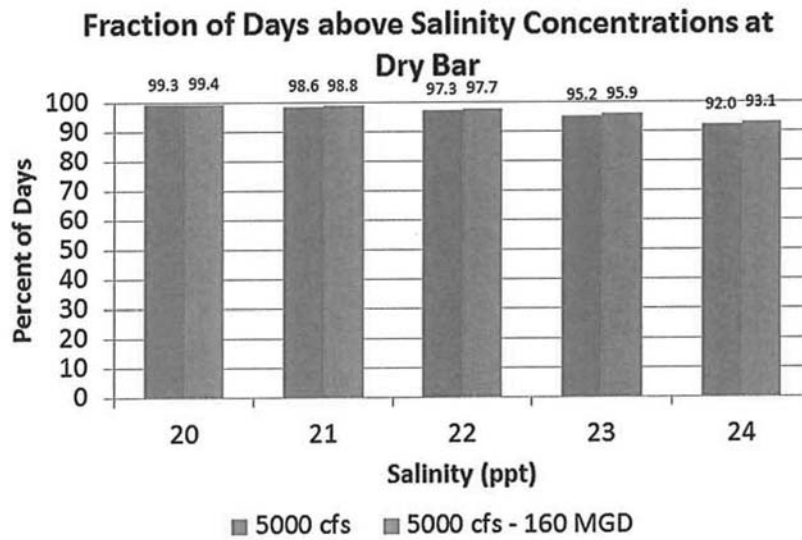


Figure 24

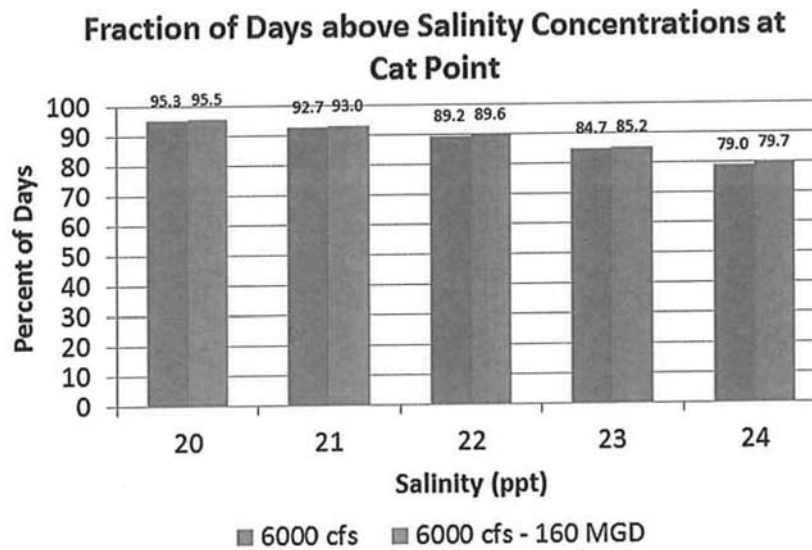


Figure 25

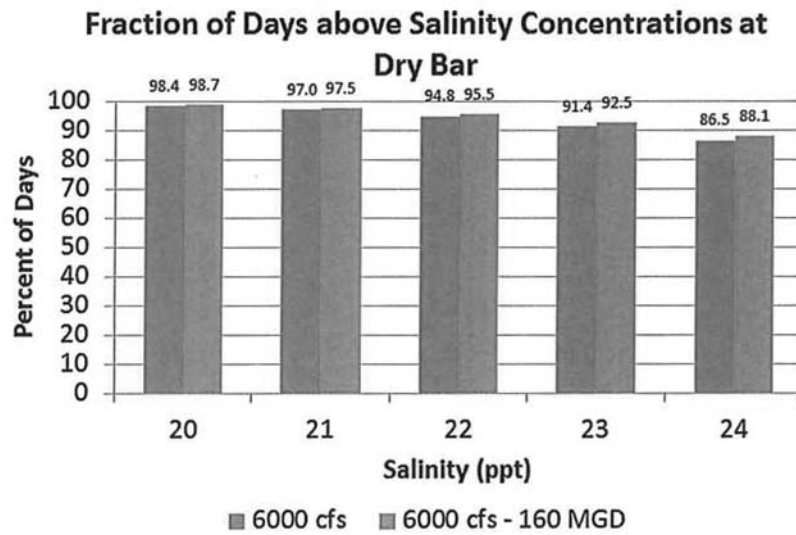


Figure 26

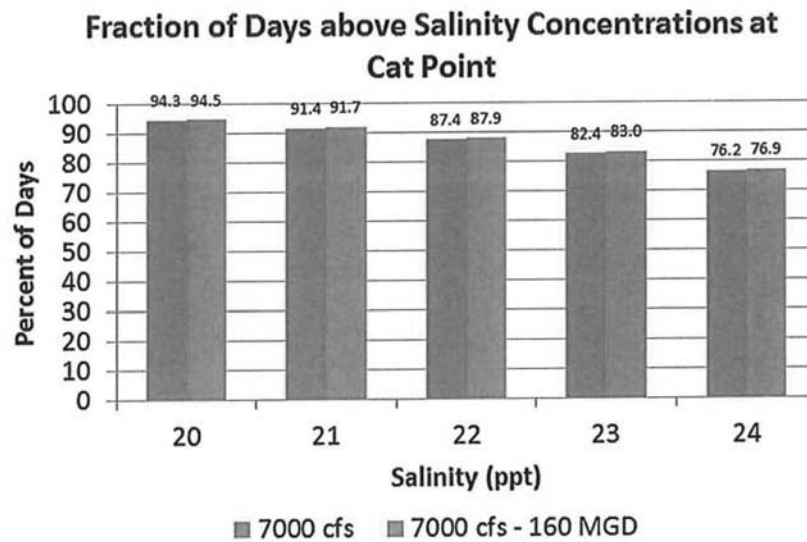


Figure 27

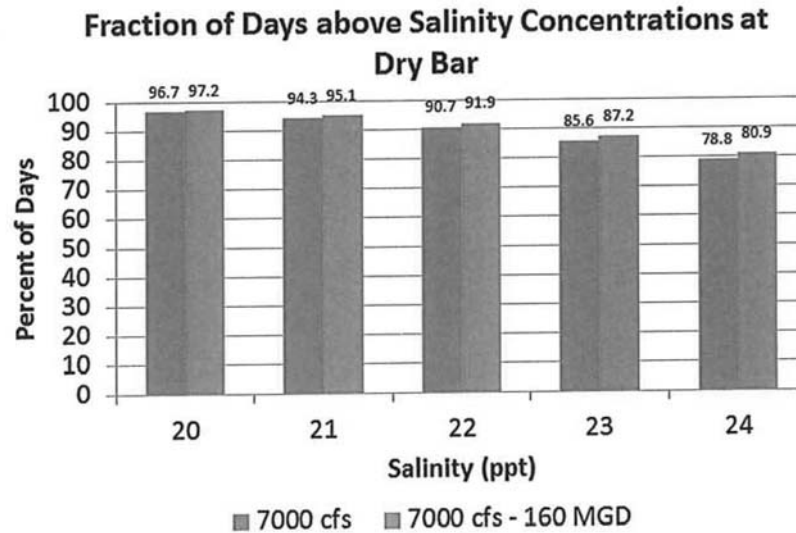
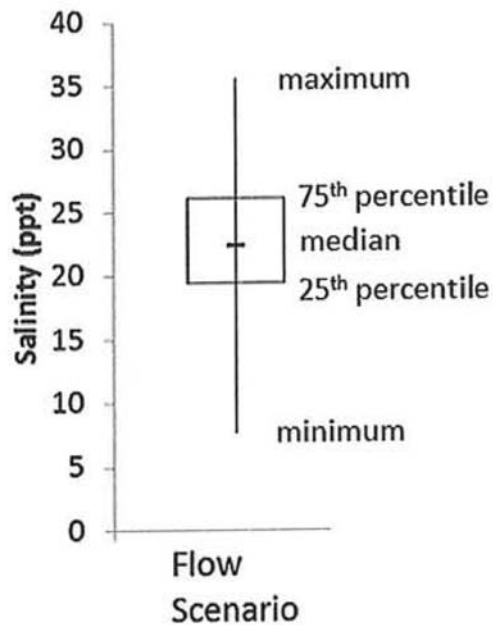


Figure 28

Moreover, even assuming higher levels of consumption within the entire ACF Basin, the impact on salinity is negligible. Regression models were used to estimate bay salinity concentration distributions under other flow scenarios where observed river low was increased each day by 200, 500, or 1,000 cfs.

The distributions of salinity concentrations for each of the flow scenarios is summarized with a “box and whisker” plot as shown below.



The “box” represents the median, 75th and 25th percentiles of salinity concentrations, and the “whiskers” represent the minimum and maximum concentration. For each of the flow scenarios, a day was included if the observed flow was on the specified range of 10,000 cfs and below, or 20,000 cfs and below. The flow scenarios, however, include flows that may be above the range if they occurred on a day that the observed flow was within the range.

Increased flow, represented by the flow scenarios, is shown in the figures below to have little effect on the distribution of salinity in the Apalachicola Bay.

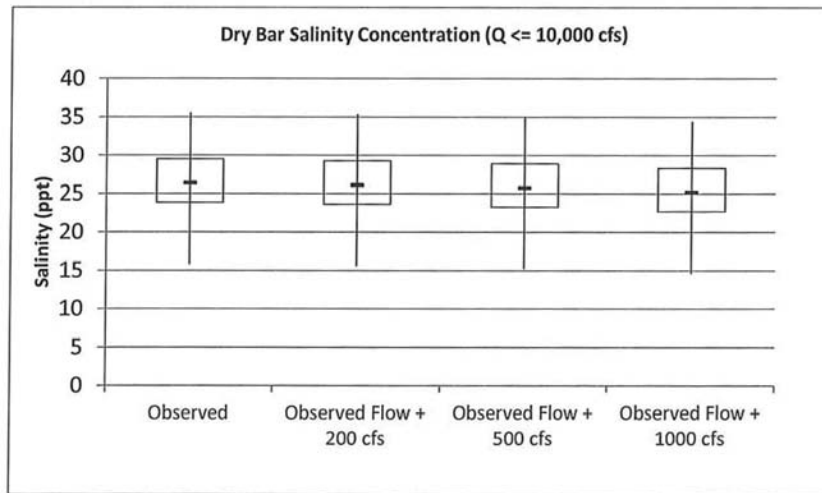


Figure 29

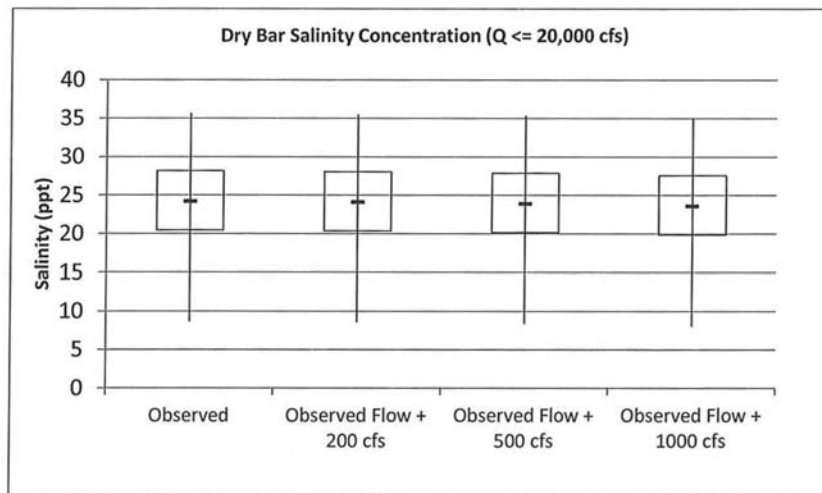
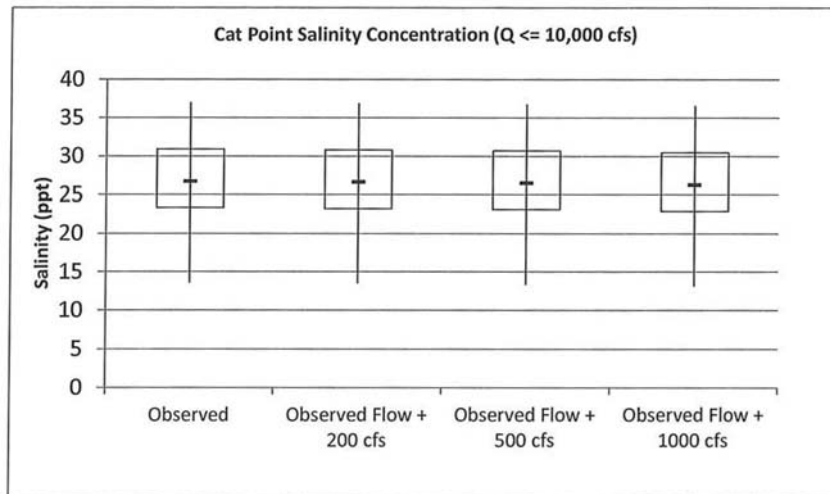
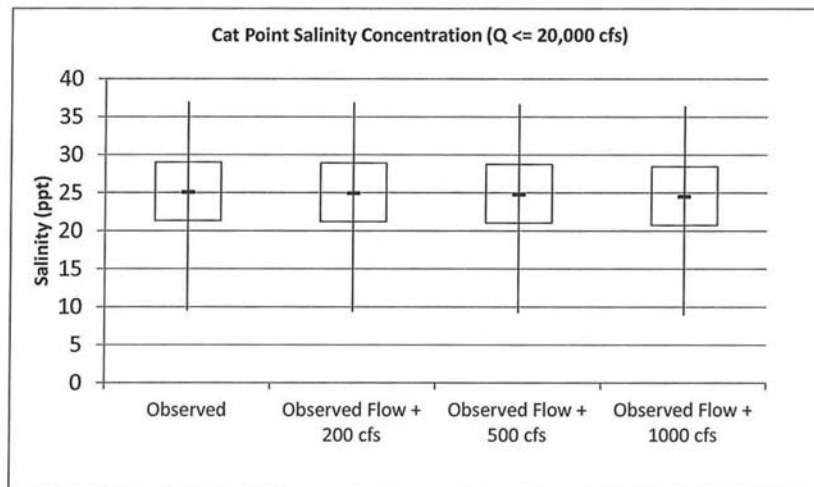


Figure 30

**Figure 31****Figure 32**

Sikes Cut Has a Greater Effect on Salinity

Research has shown that salinity throughout Apalachicola Bay and at oyster bar locations in particular is affected by the flow of salt water through artificial inlets like Sikes Cut. The Corps created Sikes Cut as a navigation channel in the 1950s to shorten travel time for boats leaving and entering Apalachicola Bay. Modeling work by Jones *et al.*, (1994) indicates that Sikes Cut impacts salinity throughout Apalachicola Bay and can impact the salinity at Cat Point oyster bar, for example, by 2–4 ppt.⁶ If this is so, the influence of Sikes Cut on salinity is two times or more greater than the influence of all upstream consumptive uses combined. In addition, Sikes Cut provides an entry path for marine oyster predators directly to the heart of the oyster beds in Apalachicola Bay.

There Is No Correlation Between Flows and Oyster Landings

In light of the foregoing, it should come as no surprise that there has been no correlation between the amount of water flowing in the Apalachicola River in a given year or consecutive years, and oyster landings in those years or following years.

The figure below provides oyster landing data for the Florida Gulf Coast as shown in Florida's 2013 Disaster Report and as compiled by NOAA Fisheries. It shows that there is no correlation between river flow and annual oyster landings.

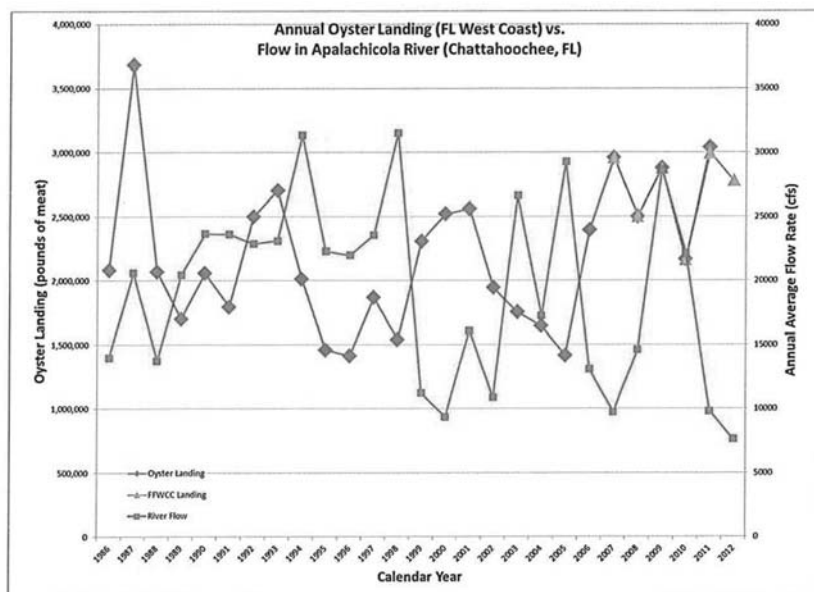


Figure 33

⁶See, Jones, W.K., Galperin, B., Weisberg, R.H. and Wu, T.S., *Influence of Sikes Cut on Apalachicola Bay, FL; a Preliminary Analysis from a Three-Dimensional Perspective*.

The Current Decline in Landings and Population Appears to Be Caused by Overharvesting

From NOAA monthly landing data and the discontinuous monthly landing data provided by the FFWCC May 2013 Disaster Report, it is very clear that the general level of oyster harvest in the most recent 6 years has been unprecedentedly high. The level of monthly harvest starting around October 2011 and lasting well into 2012 in particular was higher than any seen before. As later graphs will show, this record-breaking level of harvest was then followed by the steep decline of the oyster population at major oyster bars. Despite the fact that the predicted population began to decline in 2010 following several years of higher-than historical harvests, Florida allowed harvesting to increase to unprecedented levels.

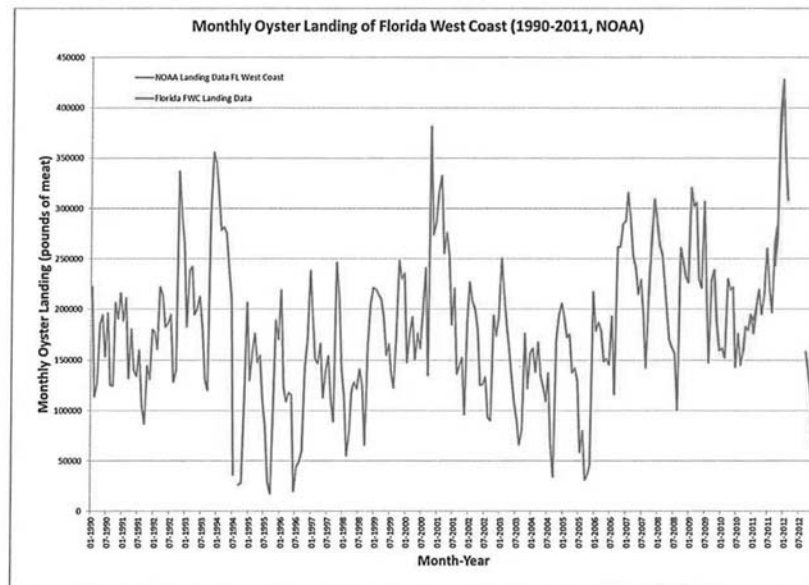


Figure 34

The below graphs show the monthly quantities of oyster landings (NOAA data) plotted with estimates of the remaining oyster population at the Dry Bar and Cat Point oyster bars, based on 2013 Florida Disaster Report data. This data shows that despite the fact that the predicted population began to decline in 2010 following several years of higher-than-historical harvests, harvesting activity increased, hitting an all-time peak between late 2011 and early 2012.

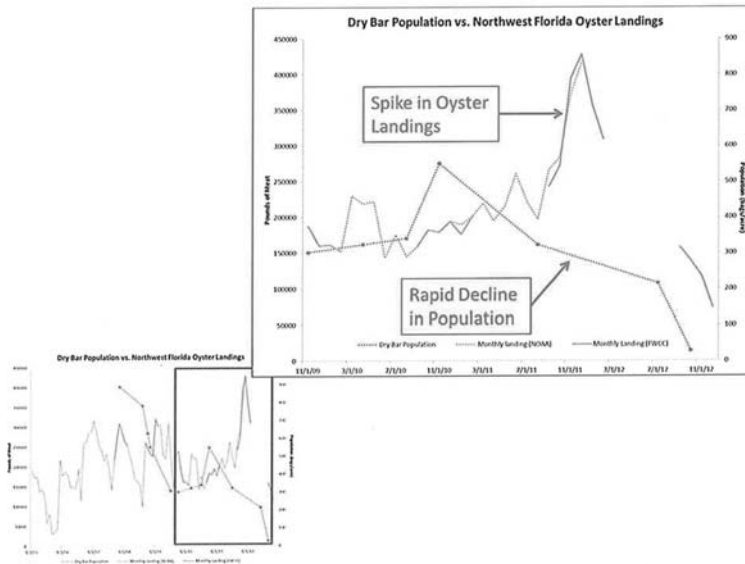


Figure 35

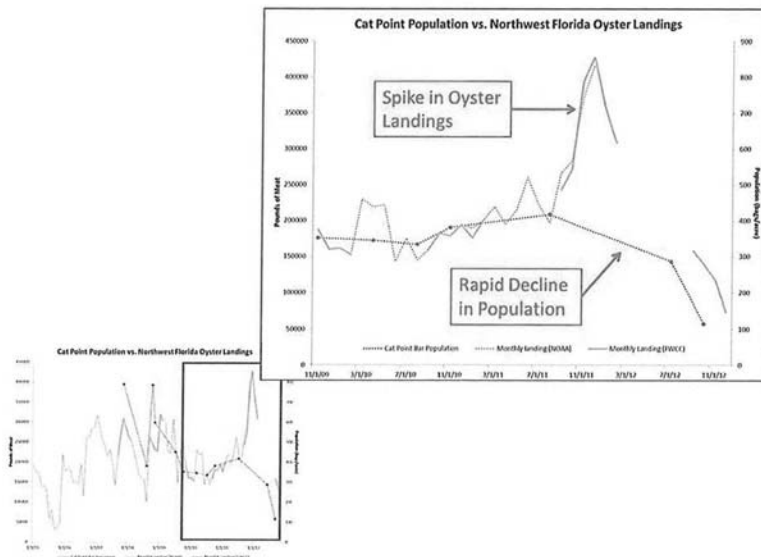


Figure 36

The above charts appear to show that the current decline in oyster landings is directly related to the unprecedentedly high levels of oyster harvesting in the years from 2007 to 2012. As Governor Scott of Florida himself acknowledged in his Sep-

tember 6, 2012 letter to the U.S. Department of Commerce seeking a commercial fishery declaration for Florida's oyster harvesting areas in the Gulf of Mexico, "Harvesting pressures and practices were altered to increase fishing effort, as measured in reported trips, due to the closure of oyster harvesting in contiguous states during 2010. This led to overharvesting of illegal and sub-legal oysters further damaging an already stressed population."

Similarly, the April 24, 2013 Apalachicola Bay Oyster Situation Report, published by the University of Florida, Florida Sea Grant, and others points to "a historically high level of oyster harvesting" as a cause of the declining oyster population, stating further that "oyster harvesting trips reported by fishermen reached the highest levels observed since the mid-1980s." The Report states, "Additionally, fishermen raised concerns about large harvests of sub-legal (less than 3 inch) oysters over the same time period," and concludes that "oyster demand, prices, and fishing effort, combined with insufficient fishery management enforcement and adjudication, led to a large portion of the oysters being harvested." The Report mentions upstream water consumption in Georgia and Alabama as a possible contributor, but it makes no effort to show any decline in flow or increased salinity related to that consumption.

The concurrence of the dramatic rise in oyster harvesting with the decline in the available oyster population is illustrated in the below the figures, derived from data reported in the August 2012 Oyster Resource Assessment Report, compared with the estimated oyster populations at the Dry Bar and Cat Point oyster beds.

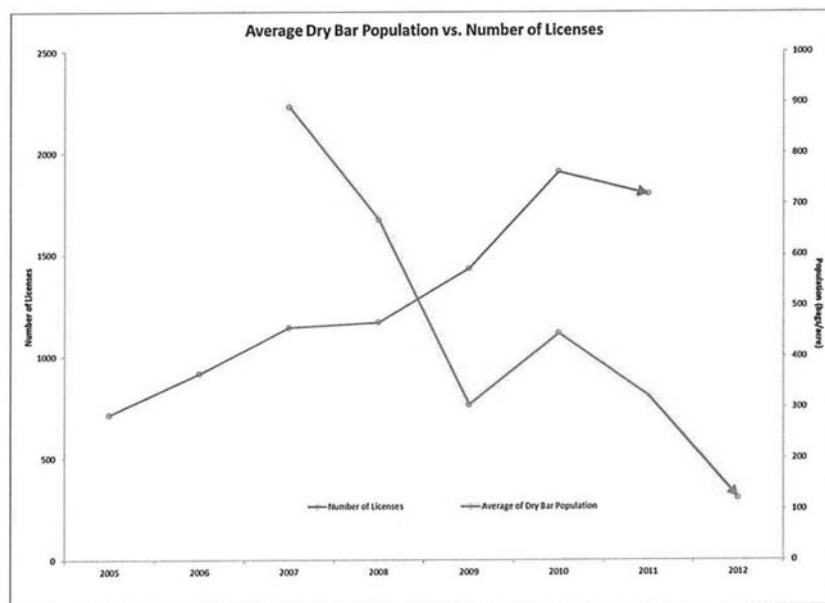


Figure 37

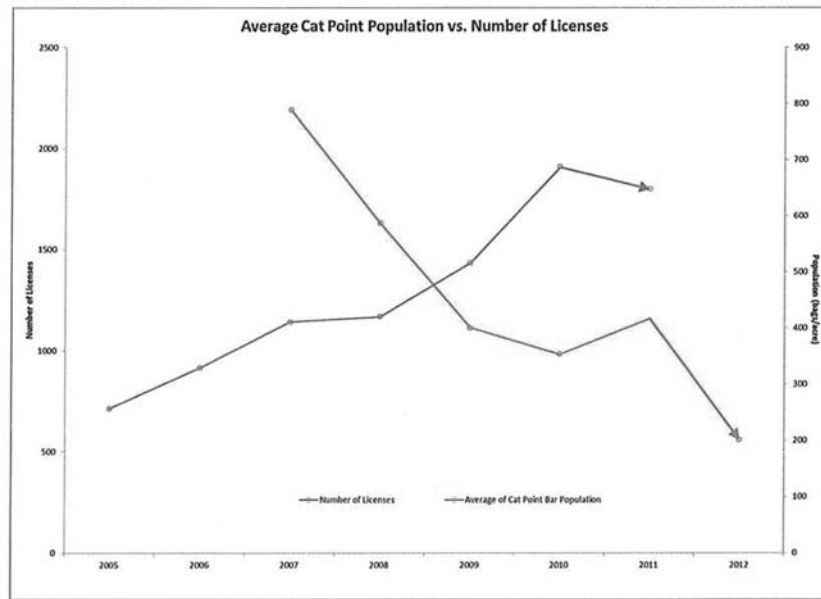


Figure 38

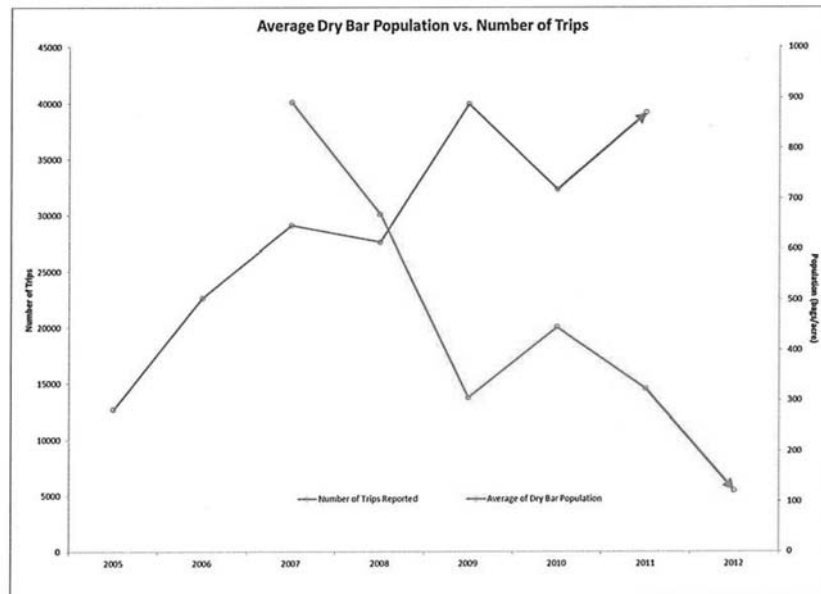


Figure 39

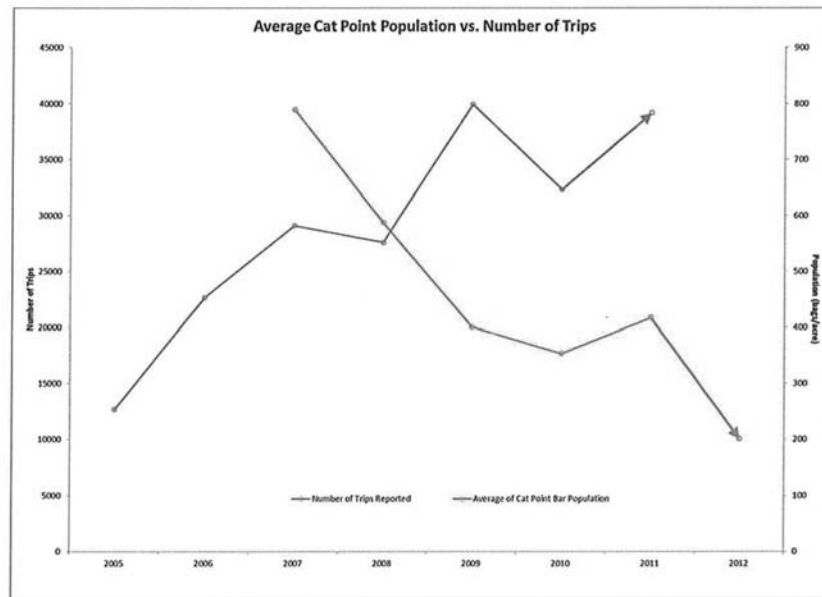


Figure 40

Georgia's Water Use is Reasonable

The underlying premise behind much of the information and testimony provided by the State of Florida is that withdrawals in the Metro Atlanta Area are unreasonable and have harmed Florida's interests. As shown above, there is no impact to Florida from Metro Atlanta's consumption. This should not be a surprise, because Metro Atlanta's municipal and industrial water use is about 1 percent of the water flowing from Georgia into the Apalachicola River in an average year. During extreme drought, the percentage depletion of the annual water budget is somewhat higher, but it is never much higher than 2–3 percent.

As a result of the aggressive conservation measures described below, water use within the Metro Atlanta Area has declined substantially over the past decade, even as population increased. *Per capita* usage for the Metro Atlanta Area compares very favorably to peer communities nationwide, and it is much lower than in other communities in Alabama and Florida. According to a report by the firm CH2MHill based on information provided by state agencies, in 2006, the per capita use rate for Atlanta was 128 gallons per capita per day (gpcd). For Tampa, Florida, the use rate was 148 gpcd; for Mobile, Alabama, was 159 gpcd; for Montgomery, Alabama, was 162 gpcd; for Birmingham, Alabama, was 167 gpcd; and for Tallahassee, Florida, was 176 gpcd.

The Metropolitan North Georgia Water Planning District, which is comprised of 15 counties, 92 cities, and 56 water supply systems, has developed comprehensive long-term plans for water supply and conservation, wastewater management, and watershed management for metro Atlanta. The plans are implemented by local water systems and local governments and are enforced by the State of Georgia through water permits and through eligibility for grants and loans.

Water conservation is an important element of the Metro Water District's Water Supply and Water Conservation Plan. The water conservation measures in the Plan are the most aggressive in Georgia and among the most aggressive in the United States. The water conservation measures in the Metro Water District Plan include: (1) conservation pricing; (2) replace older, inefficient plumbing fixtures; (3) pre-rinse spray valve retrofit education; (4) rain sensor shut-offs on new irrigation systems; (5) sub-unit meters in new multi-family buildings; (6) assess water losses with IWA/AWWA water audit methodology and develop programs to reduce systems water loss; (7) residential water audits; (8) low-flow retrofit kits for residential; (9) commercial water audits; (10) education and public awareness activities; (11) high-effi-

ciency toilets and urinals in government buildings; (12) new car washes to recycle water; (13) expedited water loss reduction; (14) multi-family high-efficiency toilet (HET) rebates; (15) meters with point of use leak detection; (16) private fire lines to be metered; (17) maintain a water conservation program; (18) water waste policy or ordinance; and (19) HET plumbing fixtures in new construction consistent with state legislation.

The Metro Water District has made water conservation a priority, and local water systems have shown a strong record of implementation of water conservation measures. In annual progress surveys, the District has found: that tiered water conservation rates are in place throughout the metro area; that water systems serving 96 percent of the population offer toilet rebates, and over 76,872 older toilets have been replaced since 2008; that the larger systems have implemented programs to reduce system water losses, and, in 2010, over 10,000 leaks were repaired; and 98 percent of the population of the metro area is targeted with educational and outreach programs by local governments.

In 2010, the Georgia Water Stewardship Act was passed by the Georgia General Assembly and signed by Governor Sonny Perdue. The Water Stewardship Act amplified and supplemented the 19 water conservation policies and programs identified in the Metro Water District's Water Supply and Water Conservation Plan. Among the Act's provisions that supplement the Metro Water District's demand management initiatives are: (1) requiring state government agencies to examine their programs, practices, and rules to identify opportunities to provide for voluntary water conservation; (2) requiring local governments to include water conservation measures in local comprehensive plans; (3) incentives for public water systems to use full cost accounting; and (4) technical assistance to local governments and public water systems for water loss abatement activities.

In the area of agriculture, Georgia and its farmers are taking concrete steps to improve water efficiency. Working in conjunction with Federal cost-share programs, Georgia is implementing installation of low-pressure conversions of pivots (retrofits), soil moisture monitoring to support advanced irrigation scheduling, strip till, micro-irrigation systems, and irrigation water management plans. In 2011, it was estimated that a combination of Federal cost share and private sector funds had supported work with over 1,000 farmers in the basin to implement water conservation practices, such as installing 100,000 more efficient nozzles on 250,000 acres that collectively conserve up to 15 billion gallons of water in a dry year. Farmers in the basin and the State of Georgia have also invested in metering of agricultural water withdrawals for two purposes: (1) to improve our ability to manage the basin's water resources and (2) to provide an on-farm management tool for individual growers. To date, nearly 12,000 meters have been installed statewide with just over 5,000 installed in the Lower Flint Basin. Information from these meters allows individual growers to monitor and adjust their water use over the course of a growing season. These are but a few of the many measures that Georgia is taking to responsibly steward the use of the water resources of the Chattahoochee and Flint Basins for one of the Nation's most productive agricultural regions.

These conservation measures are a major reason why Georgia's per capita use rates have fallen in recent years. According to the September 2012 Water Efficiency and Conservation State Scorecard by the Alliance for Water Efficiency and the Environmental Law Institute, only five states (four of which are west of the Mississippi River) received a better grade than did Georgia for their laws and policies promoting water efficiency and conservation. Alabama and Florida received lower grades than Georgia.

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REPLY TO:
POST OFFICE BOX 187
APALACHICOLA, FLORIDA 32329

August 23, 2013

sara_gibson@commerce.senate.gov

sean_houton@commerce.senate.gov

Re: Congressional hearing Apalachicola, Florida

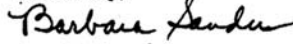
Dear Senators Nelson and Rubio,

At the hearing, you asked for evidence of the negative economic impacts which result from the declining Apalachicola Bay. As you can see, I am an attorney with a practice in Franklin County. A significant part of my practice is derived from the real estate/tourist industry because I handle real estate transactions. From first-hand observation, I can tell you that the decline of the Bay has a collateral negative effect on industries that are tangentially related to the oyster industry.

Although several factors have caused economic decline here in the last few years, one of the biggest is the lack of oysters in the Bay. I field inquiries frequently from buyers of real property and from visitors as to whether the oysters are available. I hear from the recreational fishermen that the fish are not as plentiful in the Bay. As word gets around, fewer people visit our County which means fewer tourist dollars. As the desirability of the area decreases, so do the prices of the real property, and then the tax base. The decrease in property values causes stresses in our school district. Because the Corps' inaction, every segment of society in this County is adversely affected.

Please continue your efforts to get relief for the people of Franklin County by changing the law and requiring the Corps to release the fresh water to sustain the health of the Apalachicola Bay. Thank you for coming here and listening.

Sincerely,


Barbara Sanders

cc: Apalachicola Riverkeepers
riverkeeper@apalachicolariverkeeper.org

LAKE LANIER ASSOCIATION, INC.
Gainesville, GA, August 21, 2013

Senator WILLIAM NELSON and Senator MARCO RUBIO,
 Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard,
 Senate Commerce Committee,
 Washington, DC.

Attn: Jeff Lewis, Majority Staff and Kelly Pennington, Minority Staff

Dear Senators Nelson and Rubio:

The Lake Lanier Association, a 3,400 member organization has been an advocate for the health and safety of Lake Lanier for over 45 years. We have been a significant voice in the water wars between the states of Georgia, Florida and Alabama for the past 20 years. Additionally, we have been an active participant with the ACF Stakeholders (ACFS) organization since its inception in 2008. Our commitment to that organization is based on the belief that a technical understanding of the ACF basin is critical to making water policy decisions regarding the equitable sharing of water.

It is with significant concern that we observed the special Senate hearing last week and the announcement by Florida Governor Scott that Florida will initiate another law suit to try and take more water from Georgia to support the Apalachicola Bay. We feel that several facts represented in the referenced meeting were provided in error. North Georgia and Atlanta have been unjustly vilified by statements reported from the meeting.

Attached is a report that identifies many of the issues that were not described during the Senate meeting. Specifically:

1. There are many contributors to the problems of the oyster industry; many of them the responsibility of the state of Florida.
2. If Atlanta did not exist and therefore did not use any water, the resulting increase in water flow into the Apalachicola Bay would be minimal (not even a 2 percent increase).
3. The recent drought of 2007–2008 was devastating to most stakeholders on the ACF system, not just the oyster industry.
4. North Georgia has implemented many effective conservation strategies over the past 8 years that have resulted in a per capita water usage reduction of approximately 20 percent.
5. Numerous Georgia municipalities, corporations, and organizations have been working towards a solution to the problems of the Apalachicola Bay and the entire ACF system. As an example, the ACF Stakeholders group is developing computer models that will assist in the management of the water flowing through the system.

We hope that the facts described in the attached report will provide a needed balance to the data presented at the senate meeting.

Respectfully submitted

VAL PERRY,
President.

WILTON ROOKS,
Executive Vice President.

ATTACHMENT

REPORT FROM THE LAKE LANIER ASSOCIATION, INC.

The Lake Lanier area knows first-hand the devastating impact that prolonged drought periods can have on economic factors. During the drought of 2006–2008 when Lake Lanier reached its lowest recorded point in its 50 year history, the lake economy lost over a 1,000 jobs and suffered a \$90 million loss in economic productivity. That was 30 percent of the annual contribution of the lake to the north metro Atlanta economy. So it is not without a level of empathy that we view the oyster industry collapse in 2012. However, we urge the review of all of the factors that have resulted in the collapse before a “rush to judgment” on the causes.

As Dr. Carl Havens of the University of Florida based Oyster Recovery Task Force reported at the hearing, the accumulative impact of multiple years of drought is a major factor in the collapse of the oyster industry. During the devastating drought of 2006–2008, 50 percent of the water above the conservation level in the Federal reservoirs on the Chattahoochee River, including Lake Lanier, was discharged into the Apalachicola River in order to meet the minimum required flow of 5,000 cfs. That amounted to over 200 billion gallons of water over the 2 year time period. Except for the fact that it started raining in January 2008, even more would have been discharged with the inevitable collapse of the entire reservoir system with an impact on the health of 5 million people in the Georgia part of the ACF Basin. There are no provisions in the operation of the Corps of Engineers reservoirs to avoid such a catastrophic occurrence. Apalachicola would have been in even worse shape if there were no water left to discharge.

The conclusion has to be drawn from this event that the reservoirs served their purpose and that there was “shared pain” among all of the water users in the basin.

The recurring droughts since 2008 have only further illustrated the need to store water when it is available in the reservoirs so that they can serve their intended purpose in the basin during severe droughts. Unfortunately NOAA is not able to predict the severity of a drought with sufficient clarity in order for the Corps to store even more water when it is available in anticipation of a severe drought. The result is that millions of gallons of water that could be stored are discharged from the reservoirs during conditions that do not require such discharges to meet the downstream user’s requirements, including the Apalachicola Bay.

Oyster Collapse Causes

In addition to the drought, Dr. Havens and Mr. Shannon Hatsfield referred to the poor oyster bed re-shelling project performed by the Florida Department of Agriculture and Consumer Services (DACS) over the last several years. Further, even Governor Scott in his public statement regarding the intended lawsuit to be filed by Florida against Georgia referred to the over harvesting in the bay subsequent to the BP oil spill as a contributing factor as did the oyster community in Apalachicola.

All of these factors that contributed to the collapse of the oyster economy in the bay are well documented in the work of the Oyster Recovery Task Force.

Atlanta’s Consumptive Use of Water

There is also well documented data available now that metro Atlanta’s consumptive use of water (withdrawals minus returns) amounts to less than 1 percent of the total flow of the ACF Basin during an average year and only 2 percent–3 percent during even the worst droughts. Too often only the withdrawals are quoted as “gross withdrawals”, which disregards the estimated 70 percent in reclaimed water that metro Atlanta returns to the both the Chattahoochee and Flint Basins. In reality, our inability to track “lost” water leads to even an over estimation of the net consumption.

Water that is supposedly “consumed” in the past will eventually find its way back into the surface water system since Atlanta is built on granite and has no significant ground water storage. So we have water re-entering the surface water system today that was counted as consumed some months or years ago through septic tank discharges and leaks in water utility pipes. Water does not disappear. It simply finds different paths to flow to its ultimate destiny; rivers and then to the oceans. The only water really unrecoverable over time to the ACF Basin, and ultimately to Apalachicola, consists of the inter-basin transfers of water to the Atlantic Ocean and that absorbed by plants in the transpiration process and through evaporation. And of course, even the evaporation returns to the surface water systems in the form of rain but sometimes in different water basins.

The uncertainties associated with much of the interaction of precipitation with surface water and ground water systems leads to engineering assumptions of the

most conservative nature since it is difficult and un-wise to establish water policy based on un-verifiable data. For example, water withdrawn from water utilities by homes and then discharged into septic tanks is considered 100 percent consumed. We know that is not accurate. We just don't know what the correct amount is for a short time return estimate. That the "grass is always greener over the septic tank" certainly attests to some amount of that water being caught up in transpiration. But a significant, but unknown, amount flows through the ground and eventually into surface water systems. And of course, the geology of the area impacts the time for migration of the water, leading to even further uncertainties.

While it is convenient to identify a "bogey-man" as the main causative element in a complex environment, the hard data just does not support the conclusion that metro Atlanta deserves that label. There has been analysis done that suggests that if Atlanta did not exist, there would be even less water flowing into the ACF basin since there would be even greater transpiration of water into vegetation. A major city's impervious surface does have the benefit of rapidly flowing precipitation back to surface waters. We don't suggest that as a long term viable "solution" for the 20,000 square miles on the ACE watershed, just pointing out that this is a complex issue and does not succumb to sound-bite explanations often preferred by the media.

Atlanta's Conservation Efforts

At the hearing, much was said regarding Atlanta's efforts—or lack thereof—at conservation of water. Those perceptions just do not match reality. Since its beginning by the state legislation in 2001, the Metropolitan North Georgia Water Planning District, has established tough conservation practices for 91 municipalities and 15 counties, which coincidentally is the largest metro area water planning district in the United States. These practices have led to results such as:

- Metro Atlanta's total water consumption has dropped by approximately 15 percent over the same years that its population has increased by over three-quarters of a million people.
- Metro Atlanta's water consumption tiered water rate plan is among the highest in the Nation thereby encouraging voluntary conservation by home owners and businesses.
- Atlanta's per capita water withdrawal demand has dropped from around 170 gallons per day per person (gpcd) in 2000 to an estimated 145 gpcd currently and a projected 135 gpcd in 2035. With the exception of Seattle Washington and Portland Oregon, this is lower than any other major municipal area in the United States. Even this does not take into consideration the amount of water returned to the ACF Basin but is the basis for comparison among other municipalities.

To further illustrate the ongoing conservation program for Atlanta, the following is taken from the MNGWPD Water Supply and Water Conservation Management Plan dated May 2009 as amended:

WATER CONSERVATION PROGRAM

Water conservation is a critical element in meeting the water supply needs within the Metro Water District. When fully implemented, these water conservation measures will reduce the Metro Water District's water demand by the end of the planning period. Much progress related to water conservation has been achieved since the adoption of the 2003 Water Supply and Water Conservation Management Plan. The Metro Water District's plan has been instrumental in making water conservation a priority in north Georgia. The Metro Water District is the only major metropolitan area in the country with more than 100 jurisdictions that is implementing such a comprehensive long-term water conservation program that is required and enforced. Tiered water conservation rates have been put in place throughout the Metro Water District. All of the largest water systems have implemented programs to reduce system water loss. Toilet rebate programs are in place and ahead of schedule. The water conservation measures in this Plan update include and go beyond the measures in the 2003 Plan. This update includes:

- The 10 water conservation measures from the 2003 plan
 - Conservation pricing
 - Replace older, inefficient plumbing fixtures
 - Pre-rinse spray valve retrofit education program
 - Rain sensor shut-off switches on new irrigation systems
 - Sub-meters in new multi-family buildings
 - Assess and reduce water system leakage

- Conduct residential water audits
- Distribute low-flow retrofit kits to residential users
- Conduct commercial water audits
- Implement education and public awareness plan
- 3 of those 10 water conservation measures are strengthened
 - Irrigation meter pricing at 200 percent of the first tier rate
 - 1.28 gpf toilet rebate program only by 2014
 - Minimum local education requirements and optional toolbox of examples is provided.
- 2 new water conservation measures are added
 - Install 1.28 gpf toilets and low flow urinals in government buildings
 - Require new car washes to recycle water.

New measures adopted since 2009: *expedited water loss reduction; *multi-family high-efficiency toilet (HET) rebates; *meters with point of use leak detection; *private fire lines to be metered; *maintain a water conservation program; water waste policy or ordinance; and HET plumbing fixtures in new construction consistent with state legislation.

Measures denoted () are for implementation only by the water systems that receive their water supply directly from Lake Lanier or the Chattahoochee River.*

Apalachicola Bay Salinity

The work of the University of Florida based Oyster Recovery Task Force and the Apalachicola National Estuarine Research Reserve to focus on salinity data in the Apalachicola Bay has established a wealth of knowledge regarding the productivity of oysters. But in spite of all of the collected data and empirical evidence as to what conditions are optimum for oyster productivity, there are still many questions. There are several bay salinity models that have been developed and run to correlate freshwater flow with salinity in the bay. These models include other factors such as temperature, wind, and tidal conditions that determine the salinity profile in the bay at any given time. Fresh water flow is obviously an important factor and might be the only factor than can be influenced by man. However, much greater analysis must be done to better understand the duration and volume of freshwater that is optimum for oysters.

Oysters have survived for millennia under widely varying hydrologic conditions. For time periods before our own data collection began, tree ring data shows clear periods of greatly reduced freshwater flow in the ACF Basin that predate virtually any anthropogenic influences in the basin. Yet oysters have survived during those time periods. At the hearing there was considerable discussion about “man creating the problem” so “man can solve the problem”. While a useful sound-bite to illustrate an emotional point, it misses the point. Today, the criterion is not just the survivability of oysters but their survivability at a sustained level to produce a specific economic result. At the hearing, the majority of the talk by all parties was economic related. This is clearly not an environmentally driven issue, but is an economy driven issue.

Economic Realities

All economies suffer during droughts. How the “pain” gets proportionally shared will always be a challenge to assess. But it should be clear that during the periods of drought that we have had since 2000 and the projected periods of increasing drought frequencies and duration, all water users have to learn to adjust to that reality. Some economic plans might not be viable given the projected future.

Past Decisions

In the name of economic development, several decisions in the past now confront Apalachicola Bay with some unintended consequence:

- The decision was made to cut a path, known as Sikes Cut, through St. Georges Island so that fishing boats and shrimpers would not have to travel so far to gain access to open waters in the Gulf. This has led to another source of salt water penetration directly into the bay, thereby changing the salinity regime in the bay. Questions exist as to how much influence Sikes Cut has had on bay salinity. That can be determined through appropriate modeling efforts now underway. But oystermen have reported that it does have an effect. If we want to get back to what nature intended as emphasized by the speakers at the hearing, then Sikes Cut should be closed.

- There have been artificial oyster beds put into Apalachicola Bay to increase oyster productivity. These are not “as nature intended”. They are man-made. Should the criterion for bay health and productivity include the oyster harvest gathered from these artificial beds? How much more freshwater flow is required to support these artificial beds?
- There is a canal that is effectively an inter-basin transfer from the Apalachicola River system to Port St. Joe, Florida. Originally it was to support the paper mill industry, but now targeted to provide freshwater flow for economic development purposes in Port St. Joe. While a small amount currently, it nonetheless represents a diversion of freshwater from the bay that has to be made up by increased freshwater flows from the Georgia portions of the ACF Basin. The future plans for that diversion is now known.
- Outside of the bay, Florida has modified the Apalachicola River significantly so as to allow for a navigation economy that could not be sustained without alterations. The dredging of the river, straightening of the ox-bows, annual dredging of the Chipola Cutoff are some of the alterations that have taken place. According to a USGS report in 2006 by Helen Light, the entrenchment that has occurred in the river has resulted in a 50 percent increase in freshwater flow to reach the floodplain alongside the river. While seemingly unrelated to the oyster productivity in the Bay, it nonetheless serves as an example of alterations to the natural systems that have been performed by Florida over the years, to their own detriment; all in the name of economic development.

WRDA Modifications

Florida and Alabama’s effort to insert a “poison pill” in the Water Resource Development Act in the Senate by reducing the allowable water supply allocation by 2/3 was clearly an effort to cripple the Atlanta economy. This would have resulted in water withdrawals even lower than is currently withdrawn by Atlanta and with no allowance for returns. Atlanta’s only recourse would have been to invest billions in new water storage resources. The theory seems to be that if Atlanta can’t grow then maybe Alabama and Florida cities can grow. Hardly a basis for establishing a desire to work together to solve the water conflict. Georgia Senators were derided for using approved Senate procedures to block the action that would have impacted not only the ACF Basin but any water utility withdrawing water from Federal projects for water supply purposes throughout the United States.

Summary

We hope that the take-away points from this report are clear:

1. If metro Atlanta did not exist, Apalachicola Bay would have only a few hundred cubic feet per second flow increase which is insignificant compared to even the 5,000 cfs minimum required flow during droughts and certainly when compared to the nominal annual average flow of 20,000 cfs and more.
2. “Something” caused a sudden collapse of the oyster population in August–September of 2012. Research is needed to determine what happened in such a short time period.
3. Through the ACF Stakeholders organization, Georgia and metro Atlanta governments, companies, organizations and individuals have a clear and unambiguous track record of working to assist Apalachicola Bay. But it cannot do so under the threat of either Congressional or legal action that will cripple the Atlanta economy.
4. Our water policy decisions by state and Federal officials at all levels needs to be based on sound technical understandings rather than emotional outpourings.

Respectfully submitted,

Lake Lanier Association, Inc.

RESOLUTION

BOARD OF COUNTY COMMISSIONERS

FRANKLIN COUNTY

WHEREAS, the Franklin County Board of County Commissioners are pleased to a host a United States Senate Commerce Committee hearing on “The Effects of Water Flows on the Apalachicola Bay: Short and Long Term Perspective”; and

WHEREAS, the hearing will take place in Apalachicola on August 13, 2013; and

WHEREAS, the Apalachicola Bay’s oyster industry, an industry that produces 90 percent of the oysters in Florida and 10 percent of the Nation’s oysters, is on the verge of collapse because of the lack of freshwater coming into the Bay from the River; and

WHEREAS, on August 5, 2013 the Florida Fish and Wildlife Conservation Commission released a report on status of the oyster industry that states, “The cause of the oyster decline is a lack of freshwater flow . . .”; and

WHEREAS, the report also states in its Executive Summary, “The rapid and unprecedented commercial oyster fishery failure on Florida’s Gulf coast was the result of upstream consumption and water management policies in the Apalachicola-Chat-tahoochee-Flint River Basins”; and

WHEREAS, there has been over 20 years of litigation between the states of Florida, Georgia, and Alabama over water flows in a river system that is managed by the U.S. Army Corps of Engineers for which the result has been no additional water allocated to protect the oyster industry; and

WHEREAS, the entire economy of Franklin County and the region is affected by the productivity of the Bay; and

WHEREAS, the Franklin County Commission recognizes that the United States Congress has the power and authority to direct the U.S. Corps of Engineers to include the needs of the oyster industry when water allocation decisions are made.

NOW, THEREFORE, BE IT RESOLVED, that the Franklin County Board of County Commissioners hereby declares, in recognition of the Senate Committee hearing. on August 13, 2013 that this day be declared as “Stand up for the Apalachicola River and Bay Day” and the Board hereby implores the U.S. Senate and Congress to protect the Apalachicola Bay and its oyster and seafood industry, and tourism based industry, by directing the U.S. Corps of Engineers to restore flows to the Apalachicola River, Floodplain, and Bay.”

Approved this 6th day of August, 2013.

CHERYL SANDERS,
Chairman,

Franklin County Board of
County Commissioners.

ATTEST:
Marcia M. Johnson, Clerk

FLORIDA CONSERVATION COALITION

Hon. BILL NELSON,
716 Senate Hart Office Building,
Washington, DC.

Dear Senator Nelson,

The Florida Conservation Coalition is very appreciative of your interest in the challenges facing the Apalachicola River system, and taking the time to come to Apalachicola and hear Florida's points of view first-hand. The Coalition consists of 55 conservation organizations throughout Florida and several thousand individuals dedicated to conserving and protecting Florida's natural resources.

The Apalachicola River and Bay System is more than one of the most productive oyster, blue crab, and seafood regions in the Country; it is also a way of life and a living for its people. Florida has worked for more than four decades to keep the River and Bay healthy and protect these treasures. The state and Federal Government have invested tens of millions of dollars in acquiring nearly a million acres of land in the River floodplain, watershed, and Bay. Tens of millions of dollars have been spent to install and upgrade wastewater treatment systems along the River and Bay. Florida has rejected proposals to build dams and required dredging and de-snagging operations in the River be improved or curtailed. Florida has honored the River as a priceless and irreplaceable natural asset, the foundation of the economy of several counties, and an important part of our culture.

Too little water has flowed down the River for too long now the River and Bay System is approaching the point of no return. We have tried to resolve the issue of river flow necessary to sustain a healthy river with a tri-state pact and lawsuits. We have done all we know to do. Now, we are running out of options.

The people of the River and Bay area and throughout Florida are tired and distressed, as is our precious River and Bay. It serves no good purpose to point fingers at the Federal Government or to lay blame on Georgia and Alabama. Each entity is doing the best it can within its means. Each would like to see the conflict resolved.

The states and Corps have tried to find a solution, but so far have not. In such interstate conflicts, it is appropriate and necessary for Congress to step forward and act. That is what we are asking.

We strongly support your amendment, as it offers a reasonable approach to resolving this longstanding conflict and hope for restoring and sustaining a healthy Apalachicola River and Bay System.

Sincerely,

BOB GRAHAM,
Chairman.

Nathaniel Reed—Vice Chairman
Com. Lee Constantine—Vice Chairman
Charles Pattison—1000 Friends of Florida
Eric Draper—Audubon Florida
Andrew McElwaine—Conservancy of Southwest Florida
Manley Fuller—Florida Wildlife Federation
Deirdre Macnab—League of Women Voters of Florida
Craig Diamond—Sierra Club
Lisa Rinaman—St. Johns Riverkeeper
Gary Kuhl
Roy Rogers
Auley Rowell
Vicki Tschinkel
Sonny Vergara
Estus Whitfield

Respond to: Estus Whitfield, 3444 Lakeshore Dr., Tallahassee, FL 32312

Tallahassee, FL, August 19, 2013

Hon. MARCO RUBIO,
Washington, DC.

Dear Senator Nelson:

I am a fifth generation Tallahasseean, and grew up not really knowing what a privilege it was to have our beautiful coastline, and to be able to spend summers at the beach. It was a privilege we took for granted. The water was clean and the seafood plentiful. We fished and swam and skied and as far as we knew it had always been like that, and it would always be there for us, our children and our grandchildren.

Recently I drove to Apalachicola for the day, and when I got to the bridge, I could not believe what I was seeing . . . sand bars, grass out of the water and boats unable to navigate from the river out into the gulf. It was horrid!

A few years ago there was an article in the *National Geographic* which pointed out the importance of this area's waters. The *Geographic* stated this was one of the largest "unspoiled estuaries" left in the country. It went on to point out how important it was for the fishes from the Atlantic and Pacific, and how many different species come to this bay to spawn. Without this estuary we severely reduce the fish in our oceans.

Our oysters need a perfect mix of salt and fresh, and the Apalachicola Bay has provided that for years. It's known as one of the best oysters in the world. Go anywhere and compare. They are outstanding! Men have harvested oysters in this bay for generations. It's a way of life that's been handed down from one generation to the next, and though it's a tough job, they want to do it.

Cities are out of control. They allow the building of homes, factories, shopping centers and whatever they want without being able to support the needs of those buildings from their own resources. That's unacceptable. They cannot and should not be allowed to continue to steal the river water. If they can't support their growth, then it's time to stop.

Please fight for the Apalachicola River water. Please do not let this bay die!

Sincerely,

JOE NELL SAGER

Tallahassee, FL, August 18, 2013

To Whom It May Concern:

As a citizen who believes that stewardship of our natural resources is the single most important responsibility of our government, I respectfully implore the Congress to enact legislation that will balance the needs of all stakeholders in the watershed of the Apalachicola River. As it stands now, the U.S. Army Corps of Engineers believes the law compels them to manage the water flow in the current manner, which is detrimental to legitimate interest along the Apalachicola. Unless Congress acts to change the law, the entire ecosystem and the livelihood of many people will be in peril.

Respectfully,

ROBERT M. SMITH

NATIONAL WILDLIFE FEDERATION
Reston, VA, August 14, 2013

Hon. JAY ROCKEFELLER,
 Chairman,
 Committee on Commerce, Science, and
 Transportation,
 United States Senate,
 Washington, DC.

Hon. BILL NELSON,
 United States Senate,
 Washington, DC.

Hon. JOHN THUNE,
 Ranking Member,
 Committee on Commerce, Science, and
 Transportation,
 United States Senate,
 Washington, DC.

Hon. MARCO RUBIO,
 United States Senate,
 Washington, DC.

Re: Restoring Freshwater Flows to the Apalachicola River and Apalachicola Bay

Dear Chairman Rockefeller, Ranking Member Thune, Senator Nelson and Senator Rubio:

On behalf of our more than four million members and supporters, the National Wildlife Federation thanks the Committee for calling attention to the dire plight of the Apalachicola River and Bay and calls on Congress to take action this year to prevent further destruction of Florida's environment and economy. We urge Congress to enact legislation requiring the Apalachicola-Chattahoochee-Flint (ACF) river system to be managed so that the Apalachicola River and Bay will receive the freshwater flows they need to support, restore, and reestablish a thriving ecosystem, healthy populations of fish and wildlife, and a vibrant resource-based economy.

The National Wildlife Federation (NWF) is the Nation's largest conservation education and advocacy organization. NWF has more than four million members and supporters and conservation affiliate organizations in forty-eight states and territories. NWF has a long history of working to protect the Nation's inland and coastal waters and the fish and wildlife that depend on those vital resources.

For decades, the U.S. Army Corps of Engineers has managed the ACF river system in a way that keeps vital freshwater flows from reaching the Apalachicola River and Bay. Continuation of this status quo is neither sustainable nor acceptable. As Florida's Deputy Secretary of the Department of Environmental Protection recently told the Senate Environment and Public Works Committee, if we do not restore historic flow patterns to the Apalachicola River, "the ecosystem and, indeed, the very way of life for generations of Floridians will be devastated."

The Apalachicola River is the lifeblood of the extraordinarily productive Apalachicola Bay, and the Bay is strongly influenced by the amount, timing, and duration of freshwater flowing from the Apalachicola River. Lack of freshwater flows have led to the collapse of the Bay's rich oyster population, pushing oyster production on commercially important reefs to their lowest levels in 20 years with many reefs no longer able to support commercial harvesting. This collapse has resulted in a devastating loss of income for the region, compelling Florida's Governor Scott to seek a Federal declaration of a fishery resource disaster to help alleviate the economic hardship. Lack of sufficient freshwater flows have endangered the Apalachicola River as well, leading to the loss of millions of trees in the river's floodplain and harming tourism, recreation, and businesses that rely on a healthy Apalachicola River.

The economic implications are significant. The commercial and recreational fishing industries that rely on a healthy Apalachicola River and Bay contribute almost \$400 million to the regional economy and directly support 85 percent of the local population. Sufficient freshwater flows are essential for maintaining the salinity regimes needed to sustain an economically viable oyster harvest from the Apalachicola Bay, and for sustaining many other commercially viable fisheries. Sufficient freshwater flows are also critical for maintaining the estimated \$5 billion in free services provided to Floridians by the River and Bay, including clean water, flood protection, and fish and wildlife habitat.

It is clear that Congress must take action if the situation is to change. Decades of costly litigation and negotiations among the states have not resolved the problem. Repeated calls to the Army Corps to account for the needs of Florida when managing the ACF have gone unanswered. Instead, the ACF continues to be managed to benefit upstream users at the expense of Florida's economy and environment, and the ecological health of the Apalachicola River and Bay continues to decline.

Immediate action is needed to change this untenable situation. While a number of legislative solutions have been offered, the only solution that will change the status quo and solve the crisis facing the Apalachicola River and Bay before it is too late is legislation developed by Senator Nelson that would require the Corps to man-

age the ACF system to ensure that the Apalachicola River and Bay receive sufficient freshwater flows to maintain clean water, thriving commercial and recreational fisheries, and a healthy resource-based economy.

The National Wildlife Federation calls on the Committee and Congress to ensure that this Freshwater Flows provision is enacted into law this Congress, either through inclusion in any final Water Resources Development Act that may be signed into law or as part of another legislative vehicle. We look forward to working with you on this important effort.

Sincerely,

LARRY SCHWEIGER,
President and CEO.

cc: Members of the Senate Committee on Commerce, Science, and Transportation
The Honorable Steve Southerland

FRANKLIN'S PROMISE COALITION
Apalachicola, FL, August 12, 2013

Dear Sirs,

With great respect we pose these questions. Will anyone "win" in this battle over resources? Are those parties who are so determined to be "winners" distracted by the fight and unable to remember the goal? Could it be that we need to move beyond "winning" and find comfort in not losing the things that simply cannot be replaced?

Franklin County, Florida is the center of a region that has balanced economic survival and the protection of natural resources for over one hundred years. Recent history is proving that water is quickly becoming the most prized resource across this great country. The decisions that lie in our lawmakers' hands, your hands, will shape the future of the Southeast, the Gulf of Mexico, and most intimately the people who earn their livelihood from the Apalachicola Bay and River.

Franklin's Promise Coalition is the alliance of all sectors of the community which work together to improve the quality of life for residents in the adversely affected region. The Coalition and its partners serve as advocates for the community and it provides a forum for collaborating with service providers, churches, institutions, government and volunteers for: improving access to quality services and eliminating disparities of service; streamlining and preventing the duplication/fragmentation of services; identifying unmet needs and determining strategies to meet those needs; and educating individuals on challenges, resources and opportunities. The Coalition is the front line for services which help people and families whose lives are negatively impacted by the reduced water flow and collapse of the seafood industry.

This past year, we witnessed the collapse of the seafood industry here in Apalachicola Bay. Hundreds of displaced seafood workers and the collateral businesses which count on the seafood industry to survive continue to struggle in the five county rural region that surrounds the Bay. In the last nine months, local and state political leaders, state agencies, non-profit organizations, churches and volunteers have supported the affected people of the region with job skill development initiatives, bay restoration projects, and empowerment programs that cushioned the economic blow. But those funding streams have come to an end and the region is in dire need of investment. While the battle over water makes the headlines, please do not let the impacts of the reduced water flows and the complicated socio-economic challenges leave the region in deeper economic despair.

There have been success stories that are lost in the big dispute. While one in every four Franklin County residents (and one in every three children) live in poverty by Federal standards, our records show that almost 60 percent of the regions households are struggling with sustainability. But one person—one family at a time, change is taking place and over six hundred people have participated in job skill development initiatives, restoration projects and micro-business development which were products of efforts by the Gulf Coast Workforce Board, The Florida Department of Economic Opportunity, Catholic Charities of Northwest Florida and many other businesses, churches, private donors and community volunteers. At the beginning of the collapse, the displaced seafood workers themselves proclaimed they did not want a "Hand-Out", they needed a "Hand-Up". The Coalition and our partners took that inspiration, received support from Volunteer Florida, and developed "A-Hand-Up Volunteer Assistance Program". To date 52 displaced seafood workers have volunteered over 1,155 hours to help the community as their contribution to solve the problems resulting from the oyster collapse, that is a total value of over \$25,000 of honest volunteer work. A-Hand-Up has assisted 112 households and 484 people with utility, housing, medical and food expenses thanks to private donors.

The Coalition supports engagement and empowerment of the affected population and does not support entitlements.

Almost a year into the crisis, the immediate outlook is bleak. The area requires economic investment and emergency job creation to engage the displaced workers until the restoration projects can be completed and have an effect on the productivity of the seafood industry. We respectfully request support for the following projects and are willing to be active agents in any initiative which will reduce the impact of the bay collapse.

- Immediately, steward the approval and funding for a National Emergency Grant (NEG) through the Department of Labor to create jobs for the region and to support job skill development and economic diversification in the workplace.
- Encourage the most expeditious approval of funding to respond to the “Fisheries Failure” designation through the Magnuson-Stevens Fishery Conservation and Management Act.
- Support the Long Term Restoration Proposal soon to be submitted for Franklin, Gulf And Wakulla Counties by the Gulf Coast Workforce Board in partnership with local governments, the University of Florida and multiple community organizations. The adaptive restoration project will determine and implement “Best practices” to complete a 5 year restoration plan.
- Ensure the Army Corp of Engineers is accountable for measurable progress in the fair and equitable distribution of water resources for the entire ACF river basin.
- Recognize and support the ongoing work of the Apalachicola Chattahoochee Flint Stakeholders (ACFs) as they engage a broad range of interests from the entire basin on their active 56 member Board of Directors. Assist with implementation and acceptance of the Board’s Management Plan and Inflow Stream/River Assessment for equitable water distribution that is fair to all stakeholders.
- Champion the work of non-profit organizations like our Coalition, and its partners, as well as encourage the private sector to support community based initiatives which keep the affected people involved in the solutions to the issues at hand. The Coalition members pledge to work collaboratively with State and Federal agencies in their work to reduce the negative impacts of the situation on the families in the region.

We acknowledge the difficulty and the complexity of sharing limited resources and the decisions our leaders are asked to make. We request one thing, that when it is time to make decisions that have significant economic, humanitarian and environmental impact, remove special interests and divisive political influence.

Respectfully submitted this 12th day of August, 2013.

JOE TAYLOR,
Executive Director,
Franklin’s Promise Coalition.

FCSWA—FRANKLIN COUNTY SEAFOOD WORKERS ASSOCIATION
Eastpoint, FL, August 12, 2013

Dear Sirs,

As the representatives for over 600 seafood workers who make their living off of Apalachicola Bay, we request your steadfast support for projects which will restore the Bay and employ the displaced seafood harvesters. This last “Shelling” project was very successful, although it was a small percentage of what needs to be accomplished. The format of the program required participants to earn 80 percent of their income directly from the Bay. It allowed families to sustain their livelihoods for the last 6 months. We would like this type of program to continue.

Sadly, this funding has been exhausted and there is a substantial amount of work that is needed for the Bay to recover. Also it is a horrible economic situation, we must replace the income that is lost because of the oyster crisis. The seafood workers want to be employed on bay restoration projects and are ready to work hard to ensure the Bay recovers.

Please support and expedite the National Emergency Grant that will soon be submitted by the Gulf Coast Workforce Board to create jobs and restore our Bay. On September 1st we will return to our winter bars and they are depleted. There will be nothing for our seafood workers to earn money. There are few, if any, other jobs that will fill this huge financial gap.

We cannot place enough importance on this issue. If you should need additional information you may contact me, FCSWA President, Shannon Hartsfield.

Sincerely,

SHANNON HARTSFIELD,
President, FCSWA President.

ACF STAKEHOLDERS
Working together to share a common resource

For those living in the verdant Southeastern US, water once seemed ever-abundant—until significant population growth over the past three decades combined with an extended drought has brought the region to crisis water levels. Recent drought brought water issues in the Southeast into the national spotlight. However, the regional debate over water sharing began many years earlier in 1989, when the U.S. Army Corps of Engineers was sued for allowing Lake Lanier to supply water to Atlanta area municipalities. The suit claimed that the withdrawals were made without regard to downstream interests, and that the federally-managed reservoir was built for the purposes of flood control, hydropower and navigation—not water supply. For over 20 years, the Apalachicola-Chattahoochee-Flint (ACF) River Basin case has been tied up in the courts, with little headway.

Seeing the need for a water sharing solution, a diverse group of people in the ACF Basin was inspired by the question, *How can the people who live, work and utilize the water resources of the Apalachicola-Chattahoochee-Flint Basin work together to share a common resource?* Stakeholder forums held throughout the basin confirmed a very real desire to collaborate. With litigation and politics unable to resolve the issues, a grassroots effort was launched by individuals and groups most affected by the situation—the stakeholders themselves. In March 2009, volunteers representing all four regions of the ACF Basin became the founding Steering Committee of ACF Stakeholders, Inc. (ACFS). Today, the 56 member ACFS Governing Board, work groups and sub-basin caucuses are engaged in a collaborative effort to produce a Sustainable Water Management Plan. ACFS has raised over \$1.3 million in private funds, engaged technical consultants for analyses of current water demands and returns, instream flows, current conditions modeling, an assessment of Apalachicola Bay and evaluation of water management alternatives; and its members have submitted consensus comments during the scoping process for USACE revisions to the Water Control Manual for the basin. The Stakeholders have already achieved consensus acceptance of key background materials with the goal of developing a draft Plan by early 2014.

From the beginning, the charter members knew that the organization had to include representation from all interest groups if it was to realize the potential for real compromise. Incorporated as a 501(c)3 nonprofit organization in September 2009, ACFS is a diverse group of cities, counties, industries, businesses, fishermen, farmers, historic/cultural, environmental, conservation and recreation groups from all three states—working together for the first time to achieve a common goal. Their mission is to achieve equitable water-sharing solutions among stakeholders that balance economic, ecological, and social values, while ensuring sustainability for current and future generations.

CITY OF APALACHICOLA
RESOLUTION 2013-08

**A RESOLUTION BY THE CITY OF APALACHICOLA DECLARING
AUGUST 13, 2013, AS "SAVE THE APALACHICOLA RIVER AND BAY DAY"**

WHEREAS, the Mayor and City Commissioners of the Historic City of Apalachicola have constantly exhibited their effort on behalf of the people of Apalachicola and the surrounding areas to preserve and defend the freshwater flow down the Apalachicola, Chattahoochee and Flint River system to Apalachicola and Apalachicola Bay by every possible measure including the filing and prosecution of "Water Wars" litigation along with the State of Florida against the U.S. Army Corps of Engineers and takers of the freshwater flow upstream that deprive Apalachicola Bay and Apalachicola of its God created and given life source and have reduced it to its present critical condition; and,

WHEREAS, the Mayor and City Commissioners of the City of Apalachicola are committed to continue this effort by every possible method and measure and to STAND UP FOR THE APALACHICOLA as our people have done and had to do for centuries and make note that there are Apalachicola citizens still alive today who personally heard and relied upon the promises of the Corps of Engineers that the reservoir and dam system to be created upstream with Federal monies through Acts of Congress on the ACF River System were solely for flood control, navigation and water power generation none of which would eliminate or reduce freshwater flow down the Apalachicola to Apalachicola Bay and recall the statement of Mayor Hartsfield of Atlanta as Georgia refused to contribute money to the project as they did not need nor wanted water storage behind the dam, that "Atlanta is not so situated as a number of the Cities out West in our Country, where there is a dearth of water, as we are blessed with so many sources right here in Georgia", and Atlanta had "Plenty of Water"; and,

WHEREAS, as Congress created and Federal monies paid for the dam and reservoirs on the ACF System and provided language that was intended to restrict the removal of freshwater from the reservoirs' water storage for purposes not specified by Congress in the Acts and the Acts of Congress and their restrictions have been repeatedly violated by the U.S. Army Corps of Engineers for the benefit of the Atlanta Area and to the detriment and impending death of the Apalachicola River and Bay Estuary; and,

WHEREAS, United States Senators from Florida Honorable Marco Rubio and Honorable Bill Nelson will hold a congressional field hearing to examine the lack of freshwater flow down to Apalachicola Bay as a result of the actions of the Army Corps of Engineers and the Atlanta area interests before the U.S. Congressional Committee on Commerce, Science and Transportation in Apalachicola, Florida on Tuesday, August 13, 2013 and we recognize Senator Rubio and Senator Nelson as one of our own warriors in this struggle to continue the existence of Apalachicola Bay and the intent of Congress not to allow the use and depletion of water storage on the ACF System for purposes and to the extent not allowed, not provided for, not paid for and not even wanted, that in the amounts presently being taken destroy the River System, Apalachicola River and Bay and the City of Apalachicola and make it appear that "Might makes Right" when it comes to the ACF River System;

NOW THEREFORE, BE IT RESOLVED, by the people of the City of Apalachicola through the Mayor and City Commissioners that we do and will forever continue to STAND UP FOR THE APALACHICOLA; we welcome Senator Marco Rubio and Senator Bill Nelson as our champions and welcome the Congressional Committee on Commerce, Science and Transportation to the City of Apalachicola, and we respectfully request your assistance to take action to enforce the intent of and promises made as a part of the enactment of Acts of Congress that created the reservoirs and dams on the ACF River System not deprive the Apalachicola River and Bay of the life serving freshwater supply that flows down its arteries into one of the world's most amazing and productive estuaries named Apalachicola Bay.

ADOPTED, this 6th day of August, 2013 by the City Commission of the City of Apalachicola, Florida by unanimous vote.

FOR THE CITY COMMISSION OF THE
CITY OF APALACHICOLA, FLORIDA

VAN W. JOHNS, SR.,
Mayor.

ATTEST:
Lee H. Mathes, City Clerk

UNIVERSITY OF FLORIDA—IFAS
NORTH FLORIDA RESEARCH AND RESEARCH CENTER
Quincy, FL, August 28, 2013

MEMO:

TO: Senator BILL NELSON
Senator MARCO RUBIO
Representative STEVE SOUTHERLAND

FROM: Nicholas Comerford, Director, UF/IFAS NFREC

RE: INPUT FOLLOWING THE APALACHICOLA HEARINGS

After listening to the hearings held in Apalachicola, Florida on flow issues in the Apalachicola River watershed, I wanted to alert you that the University of Florida, Institute of Food and Agricultural Science, North Florida Research and Education Center (UF/IFAS NFREC) has been actively working on agricultural practices and technologies that would substantially reduce irrigation needs while maintaining the economic viability of farms. Sod-based rotation, a cropping system developed by NFREC, has the potential to reduce water use by over 50 percent. We are also collaborating with the University of Georgia on a proposal to the National Science Foundation on implementing irrigation water saving practices in the Flint basin and on using existing surface and groundwater models to understand the implications of such savings on the entire Apalachicola-Chattahoochee-Flint watershed. If you wish to get more detailed information on our efforts please contact James Marois (jmarois@ufl.edu) or David Wright (wright@ufl.edu).

The Foundation for The Gator Nation
An Equal Opportunity Institution

August 23, 2013

To Whom It May Concern:

I write today to urge you to include the Freshwater Flows Language in the Water Resources Development Act. Your action will help save our precious Apalachicola River, Floodplain, and Bay.

I discovered this unique and important area of Florida over twenty five years ago. It was love at first sight! I returned many times over the years to visit, explore, and educate myself about the area. I am now privileged to live here in Apalachicola and am heartbroken at the current condition of our Bay.

I lived the first fifty-plus years of my life in Georgia and was blessed with a father who instilled in me a strong love and respect for our natural world. As I like to say, he taught me about conservation before conservation was cool! My adult years were spent in several locations in north Georgia, including the area around Lake Lanier.

I tell you this to say that I've lived and heard Georgia's side of the so-called Water Wars while also living and hearing Florida's side of this continuing struggle to maintain adequate freshwater flows for the Apalachicola River.

The recent Senate Committee Field Hearing held here in Apalachicola provided you with the results of numerous scientific studies and data regarding the economic impact of this bay on our region, state, and nation. I see no need to repeat these statistics to you in this letter.

What I DO feel a need to do is ask for your help! We are depending on Congress to do the right thing and the right thing here is to include the Freshwater Flows provision in the Water Resources Development Act.

Decades of litigation and negation between Florida, Georgia, and Alabama have yielded no results to insure that the Bay receives the freshwater flow needed to maintain its productivity. In short, our upstream neighbors are continuing to benefit at our expense. Their increased water consumption equals less freshwater for the Bay. Atlanta's unbridled growth and lack of attention to serious water conservation practices combined with current agricultural irrigation practices have resulted in flow patterns that are killing our bay.

I am sitting on my front porch as I write this letter and a neighbor just stopped by. He comes from a long line of shrimpers and commercial fishermen. Now in his eighties, Mr. Louie still takes his small boat up the river to fish on a regular basis. When I told him what I was typing on the computer, he asked that I tell you that I'm writing this letter for him and countless others who made and continue to make

their living on the water. Mr. Louie, too, hopes that you will do the right thing and
SAVE OUR BAY!

Sincerely,

SUSAN MACKEN,
Apalachicola, FL.

August 23, 2013

To: Members of Congress

Subject: Health of the Apalachicola River Basin and Bay

As a concerned citizen, I ask you, the members of Congress, to listen to the voice of reason concerning the health of the Apalachicola River and Bay. If a flow of freshwater is not maintained in the Apalachicola the river and bay, it will be irreparably damaged. Once man has created the damage it cannot be repaired.

A loss of the natural resource would be devastating not only to those in south Florida but to the rest of the Nation. Apalachicola Bay and the associated estuary is the fishery supplying a large portion of the Gulf of Mexico with bait fish for larger species as well as desirable food fish that are found throughout the Gulf region. The impact of insufficient freshwater has already been documented as to the effect on the oyster population and industry.

I ask that politics be put aside in this issue and ensure adequate sustained freshwater is supplied to the Apalachicola. It is the right and logical thing to do in maintaining this unique resource.

Thank you,

DAVID RHEEL,
Carrabelle, FL.

Tallahassee, FL, August 22, 2013

Representative STEVE SOUTHERLAND,
Florida Congressional District 2,
Tallahassee, FL.

Dear Representative Southerland:

I am a native of Apalachicola, having been born there in 1915 and having lived there much of my life. I have written, spoken and painted about the life and culture of this little coastal town surrounded by the richness of nature.

I am deeply concerned for the survival and protection of the Apalachicola River and its environment. Please push to preserve this unique living treasure of great natural beauty and biological diversity. We need this river, not only to keep our communities alive and thriving today, but also as the heritage for future generations.

In the past few years, we have faced terrible onslaughts to our waterways from the BP oil spill and related pollution in the Gulf. Droughts, pollution and overfishing have also already taken a great toll on the resilience of the ecosystem. We cannot sit and watch as the life is drained out of this vital natural resource!

The Water Resources Development Act must contain the Freshwater Flows language that will require the U.S. Army Corps of Engineers to provide the flows necessary for the health and productivity of the Apalachicola River and Bay.

Thank you for your time and consideration of my request. I would like to know your thoughts and plan for action in this crisis.

Sincerely,

VIVIAN MARSHALL SHERLOCK.

20 August 2013

Ladies and Gentlemen,

I really appreciate the impossible situation that politicians face every day. The LOVE of money is absolutely, the root of all evil on this small blue sphere we all call home. The exchange of goods and services amongst ourselves, as Americans, is the largest part of what we understand to be our "Economy". The word makes sense to most of us as economy of effort as we ALL labour to balance our checkbooks while bringing about a better world for our children and their children. Since we all have different ways of doing that, we task our government to regulate the equity and prove their commitment to reassure the people that no one will be left out of the solutions. Like I said . . . politicians face impossible jobs.

The world seems out of balance sometimes as we must adjust our thinking to understand that the corporations that profit from our oil-based power infrastructure are forced by everyone on planet earth to make a deal with the devil in trading our necessity of life, "water", for oil and natural gas.

One we need, the other we just want.

Yours truly,

LINDA M. EPLER,
B.S. Biology.
Crawfordville, FL.

MATHEWS-WEBSTER CONSULTING
Tallahassee, FL, August 14, 2013

Mr. JEFFREY LEWIS,
Counsel,
United States Senate Committee on Commerce, Science, and Transportation,
Washington, DC.

Dear Mr Lewis:

Thank you for your interest in these comments on the oyster disaster declared August 12 for the Florida Gulf Coast fishery. As you may recall, we discussed the importance of Wakulla County, which neighbors Franklin County and Apalachicola Bay, to Florida's oyster industry. These comments stress the critical importance of Wakulla oystering to restoration and sustainability.

These comments are submitted on behalf of Panacea Waterfronts Florida Partnership and CSA Ocean Sciences, as well as many individuals and families employed in the oyster fishery.

Panacea Waterfronts is a not-for-profit civic organization based in the small Gulf front community of Panacea, with a long history of involvement in the oyster industry.

CSA Ocean Sciences is a Stuart, FL-based environmental consulting firm that is partnering with Panacea Waterfronts on projects to help restore Wakulla's severely depleted oyster industry. My firm, MW Consulting, represents both Panacea Waterfronts and CSA. A copy of an oyster restoration proposal submitted for National Fish & Wildlife Foundation and RESTORE Federal Council funding is attached as an appendix to this document and provides important information on key subjects addressed in these comments.

Overview

Properly deployed, oyster transfers, backed by a sound science component, can help restore the region's oyster reefs, create an ongoing sustainable harvest, and put underemployed and unemployed oystermen and women back to productive work. Wakulla County is ideally situated for oyster transfers. The cost of a three-year program is approximately \$2 million, including substantial scientific monitoring.

Importance of Wakulla Oystering

Wakulla County is the second-largest producer of oysters in Florida, after Franklin County. As county oyster production is measured where the oysters are landed—brought ashore—and most Wakulla oysters are landed in Franklin County, the actual production for Wakulla is certainly higher than landings would indicate.

Throughout the year, oystermen and women routinely move between Wakulla and Franklin county waters. The two areas are closely linked.

Over the past several years as Franklin County suffered from the loss of freshwater flow, this linkage severely impacted Wakulla County, as oystermen and women harvested Wakulla waters more intensely. Coupled with the "Great Reces-

sion”—which led many out-of-work people to take up oystering—Wakulla oyster reefs are currently severely depleted, some say by as much as 75 percent.

During the hearing, speakers talked of the significant decline in the number of oyster boats working in Franklin County. The same is true in Wakulla, where many local oyster families—some third and fourth generation—are facing foreclosure due to declines in income. Without doubt, oystering is a greater portion of Franklin’s livelihood than Wakulla’s. But, as Wakulla has three times the population of Franklin, a smaller portion still means the number of people in harm’s way in Wakulla County is very high—and tragic.

However, the most severe problem facing Wakulla is the lack of resource management. While Franklin County is extensively researched and monitored, authorities know next to nothing about Wakulla oysters. For example, there is little data on the size, quality, and productivity of oyster reefs. There are no ongoing restoration projects (the last restoration project, a small annual oyster transfer program, ended earlier this month). And, there is very little enforcement; poaching from prohibited and conditionally closed areas is believed to occur at an alarming level.

Wakulla Opportunity

Fresh water flow has long been identified as the most significant problem facing Apalachicola Bay. Wakulla County’s freshwater flow is from a separate watershed that originates in South Georgia (well below thirsty Atlanta). Wakulla also has numerous freshwater springs and sea wells as well as rivers. Water purity, not flow, is the greater concern in Wakulla.

In order to ensure health and safety, large portions of Wakulla oyster areas are either harvest prohibited or conditionally closed (see maps in Appendix A).

Oysters from conditionally closed areas can be transferred—also called “relaying”—to conditionally open waters. In about two weeks, oysters transferred into clean water will self-clean—and become safe to eat.

Last week (August 5, 2013), the final NOAA-funded Wakulla oyster relay took place. Supervisors from Florida’s Department of Agriculture and Consumer Services, Division of Aquaculture, reported “tens of thousands of bushels” of legal-sized oysters in conditionally closed waters that could be transferred to open water (*see brief report, Appendix B*).

Once transferred, oysters can be harvested for sale within a matter of weeks. Transfers also help expand existing oyster beds, and can help build new reefs. Key to the success of a transfer is a sound foundation of extensive scientific evaluation and monitoring of the resource that will translate into effective management and enforcement.

Transfer is not often used in Franklin, where sizable conditionally closed areas do not exist. Franklin heavily relies on shelling, which is an effective strategy to rebuild reefs and create new beds, but oysters take 18 months or more to grow to harvestable size.

Cost: Benefits

Appendix A details a cost of approximately \$2 million to conduct three years of science monitoring and oyster transfers in Wakulla County. Economic estimates show that Wakulla County oyster revenue could increase by 1/3 with a transfer program in place. In addition to mitigating harm to the depleted resource, the transfer project has the potential to establish ongoing sustainable oyster harvests, where the need for additional government financial assistance is reduced or even eliminated.

Shelling and relays are both viable strategies that should be vigorously deployed. As numerous speakers stated during the Apalachicola hearing, shelling there is inextricably linked to water flow issues. Transfers in Wakulla County will not be negatively impacted by water flow issues. Thus, while shelling is an important long-term strategy, transfers in areas like Wakulla County can provide short-term stimulus and long term benefits. Moreover, a strong Wakulla transfer program provides relief to the resource as Franklin’s industry rebuilds.

Thank you again for the opportunity to submit these comments. Please let me know if we can provide further information.

Sincerely,

STEVEN WEBSTER,
President,
Mathews-Webster Consulting.

APPENDIX A: PANACEA WATERFRONTS OYSTER RESTORATION PROJECT PROPOSAL

Areas in grey (below) are section language from the DEP on-line submission form

Project Name:

COMPREHENSIVE REHABILITATION OF WAKULLA OYSTER REEF ENVIRONMENTS: *BUILDING SUSTAINABLE FISHERIES, CREATING JOBS AND PRESERVING OUR COASTAL HERITAGE*

We propose to restore and rehabilitate Gulf of Mexico oyster reefs in the Ochlockonee and Wakulla Rivers watersheds, harmed in part by response to the Macondo (Deepwater Horizon) spill, to reach a 200 bag per acre, per year production rate within five years. Increased production in this area will benefit complementing restoration efforts in the adjacent Apalachicola watershed, helping to remedy harm to natural resources (habitats, species) where there has been injury to, or destruction of, loss of, or loss of use of those resources resulting from the oil spill, as well as other factors. Oysters in these watersheds are severely depleted and suffering from the absence of science-based resource management plans. According to the Florida Department of Consumer Services Division of Aquaculture, data analyses and observations on the major reef complexes in the area show substantial losses of oyster populations, with severe declines in oyster densities, standing stocks and production estimates since 2010 (*see Oyster Resource Assessment Report*, August 2012).

This project will mitigate harm by providing environmental and economic benefit for the coastal community through replenishment of wild oyster beds and creation of new reefs. We project an estimated annual return of ≥\$1 million (1/3 greater than current landings) by sustainably harvesting oysters under our science-based best management practices.

Contact Information (Include at least one name, phone number, e-mail address, and organization name if applicable):

Panacea Waterfronts Florida Partnership
 Dickson, Walt
 P.O. Box 212
 Panacea, Florida 32346
 Panacea Waterfronts Florida Partnership
 Ronald Fred Crum
 1321 Coastal Highway
 Panacea, Florida 32346
 CSA Ocean Sciences Inc.
 Fonseca, Mark
 8502 SW Kansas Avenue
 Stuart, Florida 34997
 (772) 219-3000
 MW Consulting
 Webster, Steven
 122 S Calhoun Street
 Tallahassee, Florida 32301
 (850) 391-7674

Project Location (Include a map, if possible, and the city, county, longitude/latitude, and watershed):

See *Figures 1* and *2*.

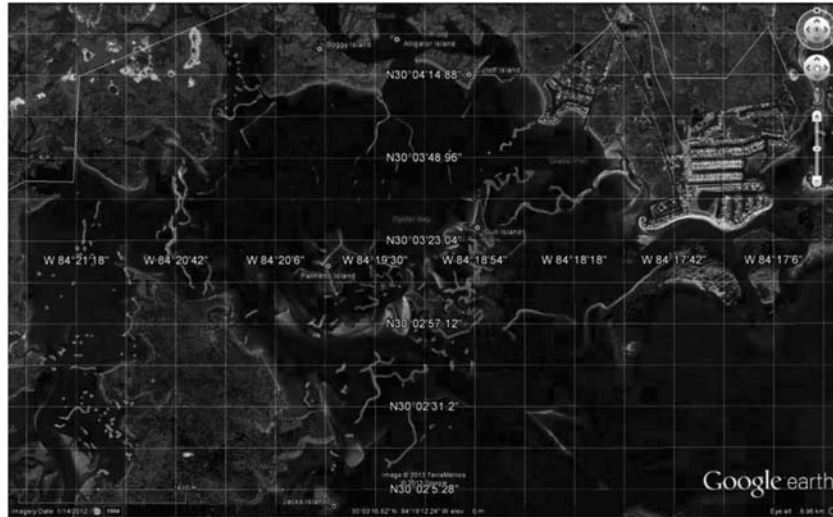
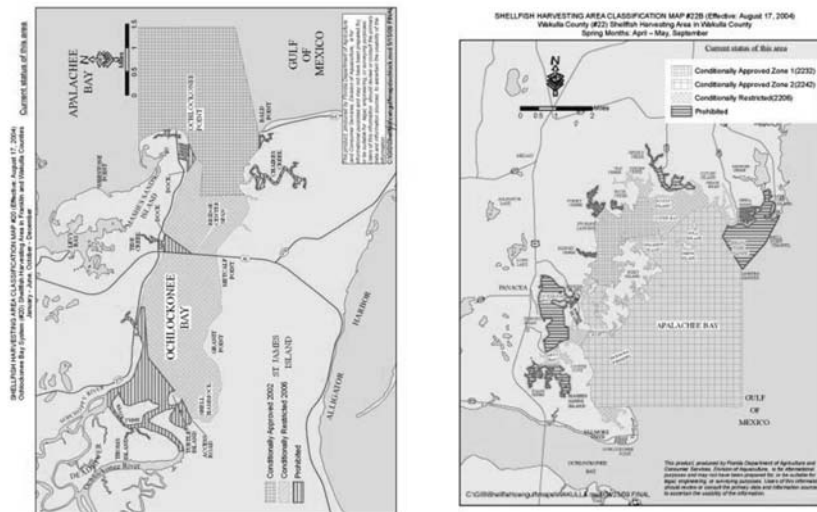


Figure 1. Wakulla County and Apalachee Bay; close up showing the extensive, anastomosing oyster bars.



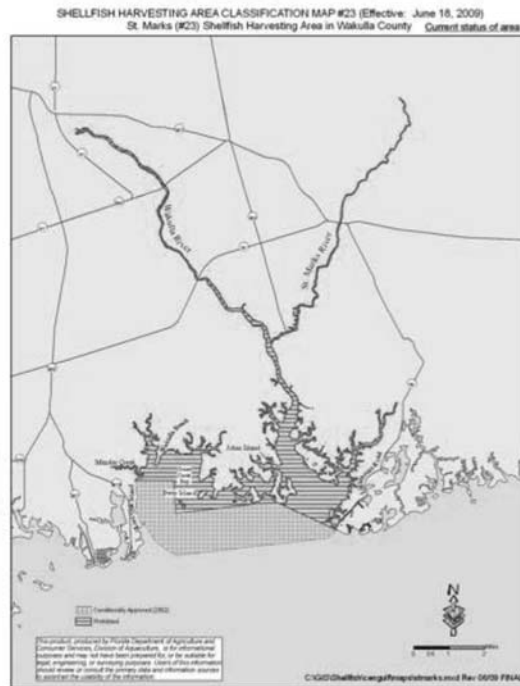


Figure 2. Maps show classified oyster waters off Wakulla County. Areas that are conditionally restricted and potentially those prohibited areas (orange diamonds and red stripes) provide opportunities during the closed summer season to transfer oysters to viable habitats for reef rehabilitation and, ultimately, harvest and an improved fishery.

Project Description (*Describe all aspects of the project*):

Here we propose to utilize National Fish and Wildlife Foundation (NFWF) funds to fuse existing knowledge and planning recommendations as well as new approaches and partnerships to create a science-based oyster transfer and habitat enhancement program. This program mitigates harm to the northern Gulf of Mexico oyster resource fueled in part by response to the Macondo spill, by restoring and enhancing degraded existing oyster reefs and the creation of new oyster reefs in Wakulla County.

Wakulla County is the second-largest oyster-producing county in Florida, after neighboring Franklin County, and oystermen and women in Wakulla and Franklin typically harvest oysters from both counties (pers. corn., Ronald Fred Crum, 2013).

Figures from 2012 Florida Fish & Wildlife Conservation Commission trip ticket tallies show just fewer than 10,000 bushels harvested in Wakulla. That number is significantly under reported, as many oysters harvested in Wakulla are landed in Franklin (Apalachicola) and counted toward that County's total. Recreational oystering and, of course, poaching, remove an unknown portion of the local resource.

Oystering in Florida, as well as other Gulf Coast states, was significantly harmed by the Macondo spill. As the *Sarasota Herald-Tribune* reported in August 7, 2010, "In the weeks after the Gulf oil spill, when things looked bleak . . . people harvested everything they could."

The intense pressure on area oysters, compounded by the complete closure of Louisiana oyster beds, led to what the University of Florida concluded is an "historic collapse" of oystering in 2012 (see *Apalachicola Bay Oyster Situation Report*, April 24, 2013).

The Transocean and BP criminal settlement agreements state:

NFWF shall use the money it receives from the defendant pursuant to this Order for the following purposes and subject to the following conditions:

- a. To remedy harm and eliminate or reduce the risk of future harm to Gulf Coast natural resources, NFWF shall use approximately half of the payments to conduct or fund projects to remedy harm to resources where there has been injury to, or destruction of, loss of, or loss of use of those resources resulting from the Macondo oil spill.

By conducting a systematic survey of County waters, we will provide a scientifically valid inventory and assessment of degraded habitats and selection of recipient habitats for enhancement and the potential for construction of new oyster reefs. This inventory will include not only georeferenced bathymetry and bottom composition, but status of the oyster reef (*e.g.*, size classes and abundance). Such an inventory is badly needed; FFWRI does not have any monitoring in place (S.Geiger, pers corn.) and the currently mapped oyster habitat (*Figure 3*) does not describe readily visible habitat well (*Figure 1*).

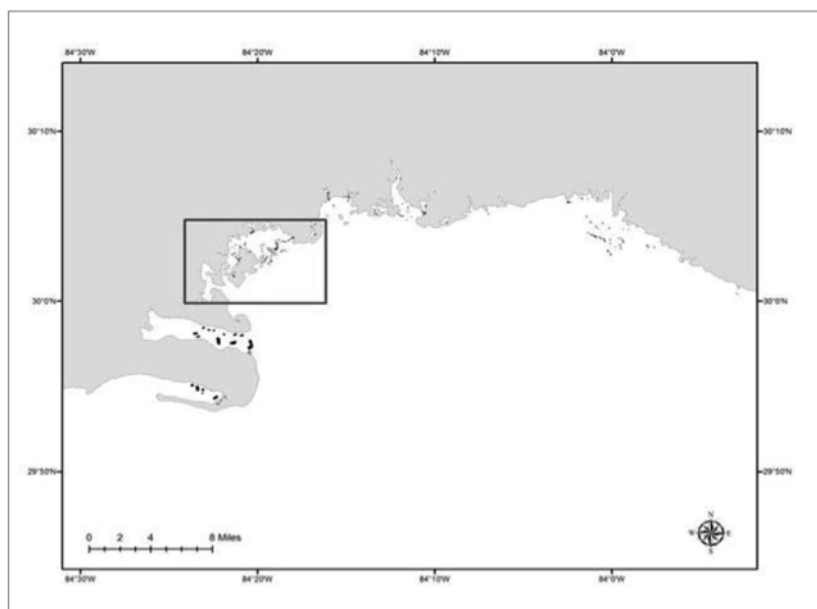


Figure 3. Current delineation of producing oyster beds in Wakulla County (black polygons); note the discrepancy of this map with the observable oyster reefs in Figure 1 (inset rectangle = approximate view of Figure 1). Taken from VanderKooy (2012).

We will integrate our inventory and site selection process with a transfer program, including coordination with the State program, to increase the effectiveness of oyster harvest in a sustainable manner and the possibility of new sites for reef creation. Moreover, our inventory will include the performance of these areas before, during, and after the oyster transfer and any reef creation process. Most important is that this project is designed to use the local, working watermen and women as partners not only in the selection of sites, transfer, and construction of any new oyster reefs, but also in the execution and management of the transfer effort. This creates jobs and buy-in to the science-guided framework of best management practices.

There is a demonstrated need for a science-based, County-wide inventory and best management practice guidance at the scale of the individual water bodies in the Bay. Oyster harvest has increased in Wakulla County since 2005, but there are indications of a declining fishery with pounds landed reaching an asymptote as a function of trips with catch per unit effort declining in recent years (*Figures 4 and 5*)

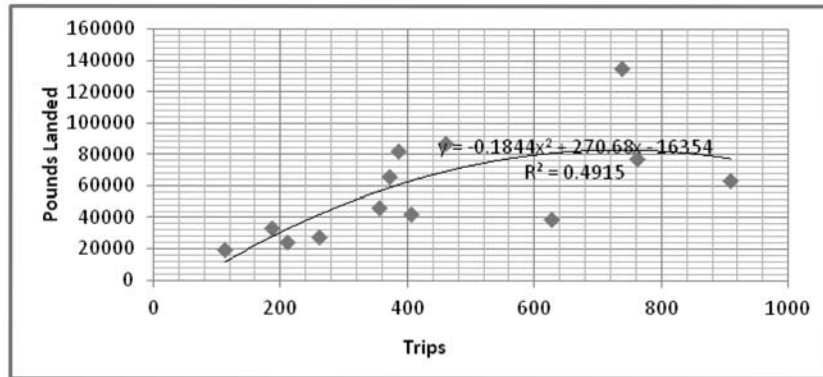


Figure 4. Wakulla County pounds of oysters landed vs. trips.

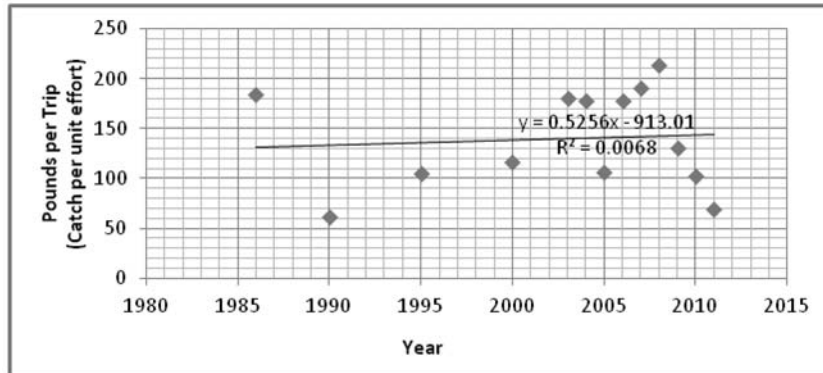


Figure 5. Wakulla County catch unit effort (pounds of oysters per trip) over time; note dramatic decline in last 4 years.

Stressors governing the abundance and health of the oyster resource include habitat destruction (*e.g.*, sedimentation), physical disruption (*e.g.*, dredging), alteration of hydrologic regimes (*e.g.*, freshwater diversion, impoundment, and channelization), pollution burdens, disease, predation (especially from the oyster drill, *Stramonita haemastoma*), and harm from overharvesting. Combined, these stressors have resulted in long-term population losses (VanderKooy, 2012). As a result, a combination of transfer efforts, habitat restoration, and, most importantly, a science-based approach to guiding harvest decisions supported by accurate geographic information regarding the resource are all needed to sustain the fishery and its associated economy.

Oyster relay or transfer projects will be one element utilized to support the Wakulla Oyster Fisherman and Women (WOFMW) and enhance the wild oyster resources. A sustainable portion of oysters located within beds in areas closed to harvest due to water quality impacts will be relocated by WOFMW. By transferring oysters from conditionally closed to open areas, existing wild beds can be replenished. One of the early tasks to be completed will be to assess the number and size of viable oyster reef habitats within closed areas and estimate the amount and size¹ of oysters (pounds or bushels) available for transfer. The second assessment should involve determining the extent of available wild habitat that exists in the open oyster areas. The study team will additionally determine if the proposed size and methodologies of transfer and harvest needed will fully replenish (and make sustainable) Wakulla beds without further major transfers. With this information compiled and

¹Relay contracts issued by the Florida Division of Aquaculture allow oysters of “any size” to be transferred. The protocols for this project will focus on larger oysters—2.75” or greater—using tonging retrieval methods. It is projected that a higher number of transferred oysters will be harvestable in the near-term.

with direction from the WOFMW, the study team would determine the most advantageous transfer process and methodology to maximize investment returns (oysters harvested) on the NFWF Act funding. When oyster resources are assessed and managed properly, an effective and well-managed transfer program should significantly increase the number of open beds available to Wakulla fisherman.

Thus, the goal of this proposal is to mitigate harm to the resource by creating an up-to-date inventory of oyster habitat and its biological status to guide a sustainable transfer and wild harvest program. Moreover, NFWF presents a once-in-a-lifetime opportunity to revive a struggling environment, resource, and industry. Improving and expanding oyster reefs in Wakulla County will contribute to NFWF's objective to eliminate or reduce the risk of future harm to the resource in Florida and across the Northern Gulf of Mexico. This project will enhance community resilience in a small county that otherwise cannot marshal the resources to achieve these goals. By developing localized, geographically accurate, and science-based best management practices, we can ensure that the wild oyster beds are not over harvested, providing many WOFMW generations with viable fisheries that preserves an important aspect of the community's culture.

Effective management of oyster resources and measuring the mitigation of harm requires an understanding of how many oysters occur within each defined management unit, the locations of those resources, and recruitment and mortality rates within each unit. Considering the fundamental importance of effectively modeling population status and suitability for harvest, there remains a surprising dearth of information regarding the stock status of oysters in the Gulf of Mexico (VanderKoooy, 2012). This proposal would directly address this shortcoming and additionally provide a basis for subsequent application of production models that are currently under development by the Gulf State Marine Fishery Commission. These models hold the promise to accurately forecast oyster resources in response to stressors that influence life history stages of Wakulla oysters, providing an objective means to guide harvest and management strategies. For example, the Constant Abundance Surplus Production (CASP) model requires a data time series of population abundance, annual recruitment (*i.e.*, spat set), stage-specific mortality rates, fishery harvest, and the impact of fishing on both cultch abundance and the mortality of pre-recruit life stages. The data requirements of this model and the Sustainable Oyster Shell stock (SOS) model are relatively low for an assessment model.

PROJECT SUMMARY

Background

- Oyster reefs in Wakulla County are severely depleted, harmed particularly by over-harvesting in response to the Macondo spill.
- Bushels collected per trip have decreased, resulting in economic hardship to the local community.
- Rehabilitation of existing reefs and the creation of new reef habitat is desired to mitigate harm.
- Effective oyster reef management and restoration rests on having accurate geographic information regarding the distribution and status of existing reefs as well as potential new reef sites; success also will be aided by marking, monitoring, and reasonable enforcement.
- Oyster transfer provides near-term economic benefits.
- Oyster transfer activities need optimization to contribute to a sustainable harvest that includes naturally occurring, non-transferred oysters.
- Oyster transfer can be of value to and work in tandem with other recovery strategies, such as hatchery-enhanced recruitment or engineering-improved circulation patterns (these are not proposed here, but could integrate well with other projects such as *A vision for sustainable farming of oysters along Florida's Forgotten Coast* [Rudloe *et al.*, year]).

Objectives

- Develop a geographically accurate and up-to-date inventory of oyster reefs and associated habitats; use these data to guide management actions (*e.g.*, rehabilitation methods and priorities, site selection for both rehabilitated and new reef creation).
- Rehabilitate existing oyster reefs and create new reefs to reach a sustainable 200 bag acre⁻¹ year⁻¹ production rate within 5 years.

- Provide local employment through the transfer and the subsequent harvesting and management of replenished wild oyster beds and new reefs.

Approach

- Compile all available geographic data layers and assemble Geographic Information System (GIS) datasets with accumulative layers depicting and representing the resources that are positively and negatively impacted by the proposed oyster transfer project and mosaic seagrass and oyster reef marine environments.
- Perform remote-sensed and ground-truthed survey of oyster reefs and their status (oyster size classes and abundance) in Wakulla County, stratified by closed, prohibited and open areas in the following areas:
 - Ochlockonee Bay,
 - Zone 2 (near shore central Wakulla),
 - Zone 3 (off shore central Wakulla), and
 - Apalachee Bay (in front of St Marks).
- Develop oyster reef rehabilitation, transfer, and creation site selection criteria.
- Promulgate reef mitigation and creation protocols.
- Using the GIS database, refine the prioritized list of rehabilitation sites and creation sites.
- Refine definition of transfer donor and recipient sites.
- Define locations for new reef creation and enhancement (water flow modification).
- Integrate submerged aquatic vegetation in reef design to control erosion, enhance ecosystem services, mitigate water quality, and provide acid buffering.
- Coordinate and implement methods to enhance and facilitate oyster reef remediation and creation:
 - Transfer Process—Controlled harvest and deployment,
 - Circulation Modifications—Changes in water quality (temperature, salinity, water clarity), and
 - Recruitment Enhancement Areas—Assess contribution of natural vs. hatchery-provided recruitment.
- Quantify the effectiveness of the rehabilitation, creation, and transfer efforts through scientifically defensible monitoring studies.
- Work with all stakeholders, including especially commercial harvesters, to develop best management practice rules.

Outcomes

- Mitigating harm by creating a sustainable oyster harvest fishery increasing annual landing revenue from approximately \$2.8 million/year (FWC landing report) to \$3.8 million/year or greater.²
- Significantly improved monitoring and assessment programs.
- Sustainable local jobs (maintaining oyster harvesting, processing, and marketing).
- Improved resiliency of the social and ecological framework of Wakulla County.
- Enhanced water quality through oyster filtration.
- Increased nursery habitats for other commercially important Gulf of Mexico finfish.

Funding

- Identify appropriate entry points for support under NFWF.
- Identify other opportunities, such as the Coastal and Marine Habitat Restoration Project grant.
- Coordinate project with the existing Florida Division of Aquaculture relay program.

²The projected increase in revenue is based on a conservative estimate that up to 50 percent of transferred oysters will be harvested in a given year. No additional income is projected based on oysters harvested from existing beds as they are replenished.

Estimated Project Costs *(Describe the estimated costs of the project, including any assumptions for contingency and ongoing operations/maintenance. Identify other secured funding sources such as matching funds, in-kind contributions or state/federal dollars. In addition, if possible, complete and submit the Cost Appendix Sheet associated with this Form):*

Project costs will arise from initial inventory and ground-truthing, site familiarization, site marking and maintenance, flow modification, permitting, active restoration, purchase of monitoring and statistical analysis, economic analysis, and reporting. These costs include a mix of capital expenditures (e.g., imagery acquisition, software maintenance, sediment fill, application costs, buoy and ground tackle, and typical expendables for field operations), subcontracts (e.g., marine services for buoying and sediment filling), and labor with associated overhead. Total cost over the 5-year life of the project: \$2,032,750.

Other Funding *(Indicate if the project is submitted for any potential funding or if it may be used to leverage additional funding, if so please describe the funding source [e.g. State/Federal Grants]):*

This project is also currently being submitted for funding through the FDEP website (*Restoration.Projects@dep.state.fl.us*). However, we intend to coordinate closely with the State's oyster relay program, which provides monies for fishermen to relocate oysters of any size from non-harvesting areas to open areas. Through this coordination, we will provide that program the benefit of our survey and assessment data to enhance their site selection process.

Technical Feasibility *(Describe the technologies involved and any relevant past experience or proven success with similar projects):*

All aspects of this project utilize established procedures (i.e., GIS and remote sensing techniques, oyster transfer program, science-based and statistically valid monitoring). Modification of oyster bars to promote water quality is technically feasible, but its link to an outcome of enhanced oyster production remains experimental and would be the subject of complementary proposals.

Environmental Benefits *(Describe the nature, magnitude, and timing of any environmental benefits attributable to the project. If possible, describe potential environmental performance measures [e.g., pollutant reduction]. Please address any potential environmental impacts associated with implementing or maintaining the project [e.g., loss of a habitat or conversion of habitat from one type to another during implementation]):*

The environmental benefits of increased oyster populations have several immediate and long-term benefits. Oyster reefs have long been known for their key role as a keystone species and as bioengineers of many coastal ecosystems; they are recognized as Essential Fish Habitat by the Federal Government. Moreover, increased numbers of living oysters provide proportional increases in water column filtration (by the living oysters) and improve water quality. Increased living oyster populations build and maintain reef habitat, which is a foundation habitat for a wide variety of other ecologically and economically valuable organisms both in the short and long term. Living oyster reefs also maintain the long-term physical stability of the water masses, regulating exchange, temperature, salinity, and geochemical processes fundamental to healthy ecosystem functions. Integration of submerged aquatic vegetations (SAV) with oyster reefs provides a continuum of habitat function and increases ecological diversity and productivity as well as buffering water column pH to mitigate any potential acidification associated with climate change. Finally, healthy oyster reefs provide an important mechanism for carbon sequestration and, thus, buffering of climate change.

Economic and Social Benefits *(Describe the economic and social benefits including those related to the project's improved ecosystem services and any estimates on jobs created or preserved):*

There was substantial harm to the oyster fishery arising in significant part from response to the Macondo spill. There are many economic and social benefits of maintaining a healthy oyster fishery. First, maintaining a healthy oyster fishery in an area such as Wakulla County where oyster fishing has been a central theme in the fabric of the community directly supports the cultural heritage of the region. Economically viable households, supported by a healthy fishery also have cascade effects through the community, supporting family structure and promoting social justice through elevated standards of living.

Direct job creation also results from this project. Significant resources will be expended through local, qualified marine contractors in the monitoring and ground-truthing surveys, transfer of oysters, creation of enhanced circulation, hiring of vessels, monitoring support, and the harvesting of transferred oysters. We anticipate transferring up to of 90,000 bushels of oysters annually at a cost of \$250,000/year, employing an estimated 100 individuals during the summer months when harvest is closed. Once transferred and oysters have self-cleansed, harvest of just 50 percent of these oysters (at current rates of ~\$30 per bushel) would provide ~\$1.35 million of revenue to fishermen beginning within weeks of completion of the transfer. In addition to these economic cascades, we anticipate a short-term (1 to 2 year) influx of ~\$2 million to the local economy and a sustained incremental return of ~\$1 million per annum by sustainably harvesting oysters under the science-based best management practices.

Community Resilience *(Describe if the project assists Florida's ability to anticipate, withstand, or recover from hazards or threats [e.g. hurricane preparedness, establishing living shorelines]):*

Improving the biological integrity of an ecosystem engineer (Jones *et al.*, 1994) such as the Wakulla oyster reefs provides substantial protection of shoreline and shore-side infrastructure from both waves and storm surge. Maintaining the heritage of oyster harvest provides economic resilience for the community. The value of the reefs is recognized at all levels of government. The existing authorization from the National Oceanic and Atmospheric Administration (NOAA) for the smaller (22,000 bushels) annual transfers since 2006 was created to restore oyster reefs damaged by hurricanes in 2005 (Florida Dept of Agriculture Contract # 018625). Oysters also provide significant carbon sequestration, fixing CO₂ into calcium carbonate.

Conflicts or Complements to Existing Efforts *(Describe any ongoing activities in the project implementation area, if the project is part of another plan, and why the project does or does not interfere with that work Please consider how the project may complement existing local, regional, and state efforts/plans/objectives):*

This effort will complement the nominal oyster relay program that has taken place in most years since 2005 in Dixie, Levy, Wakulla, and Franklin Counties. WOFWM is familiar with the process, as are the regulatory agencies. What separates this project from past efforts—besides the larger scope—is the significant science component, which will guide restoration efforts and policy for years to come. While this project stands on its own merits, there are additional programs under consideration that complement the Wakulla relay. Neighboring Franklin County is proposing a \$30+ million oyster shelling project. The Florida Legislature has established the Wakulla Environmental Institute, which plans to offer an A.S. degree in Aquaculture, working in collaboration with this project and with the well-known Gulf Specimen Marine Lab, which is based in Wakulla County.

Oyster restoration is a priority concern across the Florida Panhandle, and the Gulf, as the number of requests for funding throughout the region clearly indicates. The Northwest Florida Water Management District has reached out to counties throughout its area of service to collect and submit “on the shelf” proposals as a part of this process. As of March 13, 2013, 14 oyster restoration projects have been submitted through the NFWFMD, cities, counties, and other entities. One proposal submitted via NFWFMD (Wk-7), is on behalf of Wakulla County's Board of County Commissioners, and is an unbudgeted proposal initially submitted for NRDA funding. The goals of that project neatly dovetail with this proposal.

This project also provides excellent collaborative opportunities with other local entities such as the Wakulla Environmental Institute, wherein use of hatchery-derived oyster could be used to test augmentation effectiveness in the County. Also, given the georeferenced bathymetry data developed through this proposal, the opportunity to consider hydraulic engineering options to enhance flow and reduce pollution loads on sheltered beds becomes feasible. Finally, this proposal would directly address the recognized dearth of oyster population information needed to effectively manage the resource (VanderKooy, 2012) and would provide data to assess population modeling and management efforts (*e.g.*, the CASP and SOS models).

Complies with Federal, State, Local, and Tribal Laws/Regulations *(Describe any concerns or potential conflicts):*

The project will require permits to deploy oyster culture in order to enhance existing reefs, build new oyster habitat, or rehabilitate non-functioning reef habitat in addition to those permits and contracts for oyster transfers. Agencies and applicants are well-versed in this matter, and no complications are foreseen. This action will

require close cooperation and permits granted by the U.S. Army Corps of Engineers and the Florida Department of Environmental Protection and Wakulla County. The project team will also coordinate closely with and request comments and letters of support from Florida Fish and Wildlife Conservation Commission (FWCC), NOAA, U.S. Fish and Wildlife Service (USFW), and U.S. Environmental Protection Agency (USEPA). In addition, we will also coordinate with the Division of Aquaculture in the Florida Department of Agriculture. We will follow established guidelines for the selection and approval of oyster deployment. In instances where scientific inquiry benefits from testing new procedures, we will engage regulatory officials in pre-application meetings and other steps to facilitate expeditious permitting. We also will conduct outreach and coordination with the Department of Law Enforcement of the FWCC, which is charged with enforcement of all laws and protection of all resources in State waterways. Effective monitoring of transfers and subsequent enforcement during harvest is a key step toward reef recovery.

Readiness for Implementation *(Describe if the project has had any design or permitting work started or completed [attach permits or design work]. Please address any issues that may delay start or finish of the project):*

This project is ready for immediate launch. The team has fully prepared and active GIS capabilities; there is a strong local infrastructure of support; watermen and their families are engaged; and vessels are ready. Oyster transfer is well established and awaiting the enhanced, science-based guidance of this project.

Public Acceptance *(Describe any known or potential public approval or opposition to the project):*

We expect this to be widely embraced as the degradation of the oyster reef system is commonly recognized and science-based solutions considered long overdue. We also note that the informed public believes that past oyster relays were a “summer jobs program” for WOFMW and did little to replenish or restore the resource. Thus, this science-based approach has won widespread support and enthusiasm as it will base policy and practice on sound science. Ironically, one criticism of the program is—that it could remove too many “coon” oysters (underdeveloped clusters of oysters that are often out of the water during low tide) which could lower spat counts and reduce water filtration unacceptably. In fact—and as the critic learned—“coons” were the target of past relays, which allowed “hogging” as a collection method. In “hogging,” oysters are collected by hand, meaning the top layers, most often the “coons,” are picked and often do not survive the relay or do not adapt to their new location before reaching maturity. In the proposed transfer, larger oysters from deeper in the water will be tongued. These oysters are closer to, or already at, legal 3-in. or greater size, and can be more successfully transferred and harvested. Thus, the single criticism we have heard is an issue not caused by, but in fact is resolved by, this proposal.

Information you wish to provide *(Please include any maps, designs, drawings, photos, or background resources that may assist in completely and accurately understanding the project):*

See previous sections and:

Jones, C.G., Lawton, J.H., Shachak, M. 1994. Organisms as ecosystem engineers. *OIKOS* 69:373–386.

VanderKooy, S. (editor). 2012. The Oyster Fishery of the Gulf of Mexico, United States: A Regional Management Plan—2012 Revision. Publication No. 202, Gulf States Marine Fisheries Commission, Ocean Springs, Mississippi.

Cost Appendix Sheet	
Cost Item	Cost Estimate
Planning	
Contracts	
Feasibility	
Engineering, design, land rights and bid prep	\$86,000
Restoration plan	\$56,000
Site visits and cost of site selection	\$255,000
Administration over head and indirect	\$320,000
other	
Planning Subtotal:	\$717,000
Construction	
Contracts – aerial imagery survey	
Contracts – marine services	
Contracts – habitat restoration/mitigation-Oyster Transfer	\$750,000
Administration and mob/demob	
Other	
Construction Subtotal:	\$750,000
Monitoring	
Contracts	
Data collection	
Monitoring administration	\$350,750
Other	
Monitoring Subtotal:	\$350,750
Project Cost	
Supervision	
Subtotal:	
Contingency	\$215,000
TOTAL:	\$2,032,750
Estimated Costs by Year	
Year 1	\$944,000
Year 2	\$544,750
Year 3	\$544,000

APPENDIX B: OYSTER TRANSFER REPORT

August 5, 2013

The annual Wakulla oyster relay began today in Ochlockonee Bay waters, the boundary between Franklin and Wakulla Counties.

The relay is funded by a NOAA grant stemming from tropical storm damage several years ago and is administered by the Florida Dept of Agriculture (FDACS) Division of Aquaculture. The grant expires this year. This is the last relay.

Relays take place during summer months, when most Florida oyster beds are closed and oystermen (and women) are either underemployed or even unemployed. Oyster boats move oysters from conditionally closed zones to conditionally open waters, where cleaner water, in two weeks' time, cleanses the oysters and they become legally harvestable—and eatable.

22 boats took part this morning; they were on the water by eight and finished by 12:30. Each boat can make five trips from the source (Gulf-side of the US98 bridge across the Bay) to the relay dumping site, which was only about a mile away, closer to the Gulf. Each boat can earn \$525 for the day, gross, or \$3 per full basket, limit 5 full baskets per trip. The local Wakulla Fisherman's Association, which sponsors the relay, keeps 50 cents of each \$3. With approximately \$60,000 in funding, DACS expects the relay to take four days to finish.



The photo at left shows some boats in the distance near the bridge, tonging oysters. The markers in the foreground indicate the start of the dump site. The markers were placed by oystermen. The dump site is about eight acres in size.



I was out on the water on a DACS boat, where Joe Shields from the Division of Aquaculture's Apalachicola office would give each boat loaded with baskets of oysters a ticket, and tell them where to dump. Joe states that DACS is closely monitoring the size of oysters—nothing less than two inches—as well as how they are harvested. Only tonging is allowed this year.

The oysters I saw brought up and later dumped were of good size, and the baskets contained a minimum of—if any—detritus. In previous years, just about anything that could fit in a basket was moved, and just about any container of any size would qualify as a “basket”.



Clark Nichols, who helped mark this year's field, is piloting this boat as it dumps its load into the location indicated by Joe Shields. Clark is holding up a fairly typical oyster—clearly pleased with its size.

Shields states that the survival rate for relayed oysters is 100 percent. He noted that original plans to relay from sites further east were changed in favor of Ochlockonee Bay because the original site's oysters were both depleted and stressed out. However, he emphasized there is an abundance of oysters in conditionally closed waters—thousands and thousands of bushels, he said—which is a key to our proposal.



Once the oysters are dumped, the ticket is signed by another DACS boat. When the relay is completed and the association tallies the take, DACS pays the association, which then pays the oystermen (and women).

In Joe's opinion, this year's relay looks to be a success. Many of the principles we've been espousing in our oyster restoration proposal are being used: clearly defining harvest areas, ensuring right-sized oysters are being moved and baskets full of oysters and nothing else; and dumped in specified areas.



All the oystermen (and women) with whom I spoke stated that while the relay process itself is much better managed, the need for a real inventory of the local resource—key to our proposal—is vital. Now that there is no further funding for relays, our proposal probably could not come at a better time.

Matthew Hodges, pictured here on land after completing his five trips for the day, is the president of Wakulla Fisherman's Association. I've spoken at length with Matt; he has 1,100 GPS coordinates for Wakulla harvest and dump sites already charted. He is one of the many local oystermen (and women) whose knowledge will be key to our success.

One very interesting comment Matt made was that, today, Wakulla's oyster resource can handle 30 boats on a sustainable basis. Today, of the 22 boats out there, at least half came from neighboring Franklin; a few from Cedar Key; and just a handful from Wakulla.

Conclusion

I am no expert, as this was my first time on the water during a relay. What I saw looked well-run and organized—and I heard several comments that oyster boats that were not following orders were quickly set to rights. But, the best execution can mean little if it is not based on sound planning, and the lack of information about Wakulla oyster resources is a need that needs filling.

(Submitted by Steven Webster, President, MW Consulting)

Senators and Congressmen and women of the United States of America,

I understand humans need water . . . oysters should take second place . . . but who needs to water the grass at the Quiktrip? This is not about just saving oysters. This is about saving an economy. Would you trade the jobs of hundreds of oystermen for green grass at a Quiktrip in Atlanta.? I live in Atlanta and I say NO!

The United States of America has become very comfortable with outsourcing our clothing, our information technology, and certainly all of our manufacturing to India, China and other parts of the world. For good reason! Who can resist a Tommy Hilfiger shirt for \$9.99? Sweet!, And what's the worst that can happen? If it falls apart you are out less than your lunch money. Or of course you could always wear it with only one sleeve.

Now imagine redefining the word FRESH. FRESH SEAFOOD could mean buying all of your seafood from Thailand or China. You don't have to imagine. Today much of the seafood for sale in a typical grocery has traveled all the way around the world to get to your table. Are you comfortable with the prospect that the company selling that food will take those same short cuts with the quality of your food? What's the worst that could happen? Actually, it is currently happening. Seafood farmers growing shrimp in Thailand have lost their harvest due to disease. I refuse to buy that type of product based on the lack of health controls and unnatural way it is farmed.

Now think about the people that used to harvest the seafood in this case in Apalachicola Bay. Put them on welfare . . . put them on Medicaid . . . make more of the U.S. population poverty-stricken. Worth it? Think about that green grass at the Quik Trip.

Save American Jobs. Help our citizens help themselves.

Keep our food safe.

Save our Bay . . . Apalachicola Bay. A natural resource of the UNITED STATES.

Sincerely,

MICHAEL J. PRICE AND FAMILY,
Suwanee, Georgia.

August 18, 2013

The Honorable Senator SARA GIBSON
The Honorable Senator SEAN HOUTON
United States Senate
Washington, DC.

Dear Senators Gibson and Houton [sic]:

I am a Founder and former Board Chairman of the Apalachicola Riverkeeper environmental organization and was the Riverkeeper for a number of years. Even at that time, back in the 1990s, we knew of the damage to the Apalachicola River and Bay ecosystem resulting from the reduced flow of freshwater derived from the Chatahoochee and Flint river systems in Georgia and Alabama. We vigorously let our thoughts be known but achieved only years of promises as the "water wars" continued. We watched in despair as oyster houses closed and men and women struggled to make a living from the Bay as their families had done for years.

Apalachicola oysters are famed for their quality and enjoyed throughout the nation, but they require the mix of fresh and salt water to grow. Please don't let this wonderful national resource disappear from an area deemed an Outstanding National Water Body. Support an equitable system of distribution of our water to ensure the continuation of the oyster and seafood industry in Florida Please require the Army Corps of Engineers to establish freshwater flows that will sustain Apalachicola Bay. Thank you for enclosing my communication in our appeal.

Sincerely,

WILLIAM B. HARTLEY,
Retired Apalachicola Riverkeeper,
Hernando, FL.

cc: Dan Tonsmier, Riverkeeper
Apalachicola Riverkeeper

The locals of the northwest FL in the region of the Apalachicola Bay are asking your help as members of the Senate Committee on Commerce, Science, and Transportation regarding the upcoming hearing to support the continuing legislation to protect our water rights and save our bay, oyster industry and restore the precious balance of salinity and the health of the Bay.

Sincerely,

DIANE COFER,
Realtor,
Panama City, FL 32401

APALACHICOLA RIVER—RIPARIAN COUNTY STAKEHOLDER COALITION
Greenwood, FL, August 13, 2013

Senator Nelson and Senator Rubio:

Thank you for this opportunity to speak and submit these comments for the public record. My name is Chad Taylor and I am the Coordinator of and here on behalf of the Riparian County Stakeholder Coalition of the Apalachicola River Basin, RCSC. It is entirely appropriate we again make these comments offered also in the Florida Senate hearing on this same matter in January of this year!

In 2007, after almost two decades of litigation and negotiation on water allocation, also known as the Water War, the six Boards of County Commissioners from the counties bordering the Apalachicola River in Florida, Jackson, Gadsden, Calhoun, Liberty, Gulf and Franklin each by resolution came together to address the water allocation issues in the Apalachicola, Chattahoochee and Flint River basin, ACF. The result is the Riparian County Stakeholder Coalition, RCSC. It was evident to these commissioners and the citizens, the stakeholders living in the basin, time was and is not on Florida's side and as the years past the conditions in the Apalachicola River, Floodplain and Bay continued to decline. Here we are now six years later, and after twenty-four years of litigation and negotiation the conditions continue to decline and perhaps today are now worse than ever.

We are here today, again, to ask you to assist us in securing the flows in the ACF Basin necessary to sustain the health and productivity of the Apalachicola River, Floodplain and Bay in these four ways:

- We need a unified Florida response to this crisis, now, federal, state, local government, basin stakeholders all working together to solve the problem
- We believe it will be helpful to form an Apalachicola River Basin Legislative Caucus for the State of Florida House and Senate members to work with our Federal and State partners and agencies and the basin stakeholders
- We need the data and assessment tools to answer the question for everyone, including Georgia and Alabama, "how much water does Florida require" to sustain the Apalachicola River, Floodplain, Bay and Eastern Gulf of Mexico
- We need funding support so our state agencies, our first rate scientists and policy folks, AND the Riparian County Stakeholder Coalition, and others, like the University of Florida, working the problems can insure our very best possible outcome

In the first five years, among many successes, the RCSC includes the formation of the ACF Stakeholders Inc., ACFS. As founding members, the RCSC sees a collaborative, negotiated settlement as our best way forward. A diverse group of individuals, corporations, and non-profit organizations throughout Alabama, Florida and Georgia, ACFS represents all the interests within the Apalachicola-Chattahoochee-Flint Basin. Our mission is to change the operation and management of the ACF Basin to achieve equitable solutions among stakeholders that balance economic, ecological, and social values, viable solutions that ensure that the entire ACF basin is a sustainable resource for current and future generations. To that end we have raised 1.3 million dollars in private funding and in the first quarter of 2014 will have for consideration by all the ACF basin stakeholders an ACF basin wide Sustainable Water Management Plan that includes an In-stream Flow Assessment of the three rivers and the bay and a study of possible Transboundary Water Management Institutional Options to implement the plan. Please see www.acfstakeholders.org.

In closing, and on behalf of the residents of our six riparian counties of the Apalachicola River Basin, represented by our six Boards of County Commissioners and the Riparian County Stakeholder Coalition, please take to heart and to action these four requests;

- Support a unified Florida response to this crisis on the Apalachicola River
- Consider forming an Apalachicola River Basin Legislative Caucus
- Help us answer the question, “how much water does Florida require”
- Support our need for funding so we attain the very best possible outcome

Thank you for this opportunity to come before you on this important issue so we can work together to sustain the health and productivity of the ACF basin and the Apalachicola River, Floodplain and Bay, that, like the Everglades, is an *American Treasure!*

Respectfully yours,

C. CHADWICK TAYLOR,
RCSC Coordinator.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARCO RUBIO TO
COLONEL JON J. CHYTKA

Question 1. What impact will the control manual have on nonfederal dams?

Answer. The Corps of Engineers (Corps) will consider the non-federal dams in our analysis; however the Corps does not have manuals for these dams and most are operated pursuant to their own licenses from the Federal Energy Regulatory Commission (FERC). In terms of the impact the Corps’ proposed operation might have on the non-federal dams, we are currently in the process of formulating alternatives and then would need to see what the Environmental Impact Statement (EIS) analysis determines before determining the impact.

Question 2. How much water has Georgia requested and, when considering that request, how do you account for the impact of any additional withdrawal on the entire system?

Answer. In January 2013, Georgia submitted a water supply request for direct withdrawals from Lake Lanier of 297 million gallons per day (mgd) and downstream withdrawals from the Chattahoochee River at the City of Atlanta of 408 mgd. The Corps will use modeling and the EIS process to evaluate the impact of that request on the ACF system.

